DOCUMENT RESUME

ED 412 425 CE 075 006

TITLE Logistics. Guide to Standards and Implementation. Career & Technology Studies.
INSTITUTION Alberta Dept. of Education, Edmonton. Curriculum Standards Branch.
ISBN ISBN-0-7732-9836-3
PUB DATE 1997-00-00
NOTE 163p.
PUB TYPE Guides - Classroom - Teacher (052)
EDRS PRICE MF01/PC07 Plus Postage.
DESCRIPTORS *Behavioral Objectives; *Competence; Competency Based Education; Course Content; Curriculum Guides; Developed Nations; *Distributive Education; *Employment Potential; Entry Workers; Foreign Countries; *Job Skills; Learning Activities; Learning Modules; Secondary Education; Teaching Methods; Technical Education; Transportation; Vocational Education; Wholesaling
IDENTIFIERS Alberta

ABSTRACT

This Alberta curriculum guide defines competencies that help students build daily living skills, investigate career options in logistics occupations, use technology in the logistics field effectively and efficiently, and prepare for entry into the workplace or related postsecondary programs. The first section provides a program rationale and philosophy for career and technology studies, general learner expectations, program organization information, curriculum and assessment standards, and types of competencies. The second section provides opportunities for students to increase their knowledge and appreciation about the scope and roles of each subsector of logistics, the importance of these subsectors to daily living, business and commerce, the effect of different modes of transportation on natural environments, and the variety of occupations involved in related careers. It includes the following: (1) rationale and philosophy for the logistics strand; (2) strand organization; (3) planning for instruction; (4) 12 modules, organized into introductory, intermediate, and advanced levels, that cover a comprehensive set of competencies in logistics, warehouse management, and transportation; and define exit-level competencies, specify prerequisites, and outline specific learner expectations; (5) module curriculum and assessment standards; (6) assessment tools; (7) linkages and transitions with other strands, other educational programs, and to the community, the workplace and the credentialing process; (8) a learning resource guide listing six resources keyed to modules, plus sources for further information; and (9) sample student learning guides. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

CE

ED 412 425

CAREER & TECHNOLOGY STUDIES

LOGISTICS

GUIDE TO STANDARDS AND IMPLEMENTATION

1997

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

PERMISSION TO REPRODUCE AND
DISSEMINATE THIS MATERIAL
HAS BEEN GRANTED BY

C Andrews

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

CE075006

Alberta
EDUCATION
Curriculum Standards Branch

BEST COPY AVAILABLE

ALBERTA EDUCATION CATALOGUING IN PUBLICATION DATA

Alberta. Alberta Education. Curriculum Standards Branch.
Logistics : guide to standards and implementation.

(Career and Technology Studies)
0-7732-9836-3

1. Business logistics—Study and teaching—Alberta. 2. Materials management—Study and teaching—Alberta. 3. Vocational education—Alberta. I. Title. II. Series: Career and Technology Studies Program.

HD38.5.A333 1997 338

This document was prepared for:

Administrators	✓
Counsellors	✓
General Audience	
Parents	
Students	
Teachers	✓

Program/Level: Career and Technology Studies/Secondary

Copyright ©1997, the Crown in Right of Alberta, as represented by the Minister of Education. Permission is given by the copyright owner for any person to reproduce this publication or any part thereof for educational purposes and on a non-profit basis.

This document supersedes all previous versions of the *Career & Technology Studies Guide to Standards and Implementation*.

This publication is a support document. The advice and direction offered is suggestive except where it duplicates the Program of Studies. The Program of Studies—a prescriptive description of the expectations of student learning, focusing on what students are expected to know and be able to do—is issued under the authority of the Minister of Education pursuant to section 25(1) of the *School Act*, Statutes of Alberta, 1988, Chapter S-3.1 as amended, and is required for implementation. **Within this document, the Program of Studies is shaded so that the reader may readily identify all prescriptive statements or segments.**

Every effort has been made to acknowledge original sources and comply with copyright regulations. Please notify Alberta Education if there are cases where this has not been done.

Questions or comments about this Guide to Standards and Implementation are welcome and should be directed to:

Career and Technology Studies Unit, Curriculum Standards Branch, Alberta Education, Devonian Building,
11160 Jasper Avenue, Edmonton, Alberta, T5K 0L2.
Telephone: (403) 422-4872, Fax: (403) 422-0576.
Outside of Edmonton dial 310-0000 to be connected toll free.

BEST COPY AVAILABLE

TABLE OF CONTENTS

Page

Career and Technology Studies

Program Rationale and Philosophy A.1
General Learner Expectations A.3
Program Organization A.3
  Curriculum Structure A.3
  Levels of Achievement A.4
Curriculum and Assessment Standards A.5
Types of Competencies A.5
  Basic Competencies Reference Guide A.6

Logistics

Strand Rationale and Philosophy B.1
Strand Organization B.3
  Scope and Sequence B.5
  Module Descriptions B.6

Planning for Instruction

  Planning for CTS C.1
  Planning for Logistics C.2

Module Curriculum and Assessment Standards: Introductory Level D.1

Module Curriculum and Assessment Standards: Intermediate Level E.1

Module Curriculum and Assessment Standards: Advanced Level F.1

Assessment Tools G.1

Linkages/Transitions H.1

Learning Resource Guide I.1

Sample Student Learning Guides (not currently developed) J.1

Acknowledgements K.1

CAREER AND TECHNOLOGY STUDIES

A. PROGRAM RATIONALE AND PHILOSOPHY

Through Career and Technology Studies (CTS), secondary education in Alberta is responding to the many challenges of modern society, helping young people develop daily living skills and nurturing a flexible, well-qualified work force.

In Canada's information society, characterized by rapid change in the social and economic environment, students must be confident in their ability to respond to change and successfully meet the challenges they face in their own personal and work lives. In particular, they make decisions about what they will do when they finish high school. Many students will enter the work force, others will continue their education. All students face the challenges of growing independence and responsibility, and of entering post-secondary programs and/or the highly competitive workplace.

Secondary schools also face challenges. They must deliver, on a consistent basis, high quality, cost-effective programs that students, parents and the community find credible and relevant.

CTS helps schools and students meet these challenges. Schools can respond more efficiently and effectively to student and community needs and expectations by taking advantage of the opportunities in the CTS curriculum to design courses and access school, community and distance learning resources. Students can develop the confidence they need as they move into adult roles by assuming increased responsibility for their learning; cultivating their individual talents, interests and abilities; and by defining and acting on their goals.

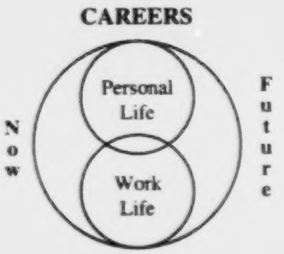
As an important component of education in Alberta secondary schools, CTS promotes student achievement by setting clear expectations and recognizing student success. Students in CTS develop competencies—the knowledge, skills and attitudes they are expected to demonstrate, that is, what they know and what they are able to do.

Acquired competencies can be applied now and in the future as students make a smooth transition into adult roles in the family, community, workplace and/or further education. To facilitate this transition, clearly stated expectations and standards have been defined in cooperation with teachers, business and industry representatives and post-secondary educators.

CTS offers all students important learning opportunities. Regardless of the particular area of study chosen, *students* in CTS *will*:

- develop skills that can be applied in their daily lives, now and in the future
- refine career-planning skills
- develop technology-related skills
- enhance employability skills
- apply and reinforce learnings developed in other subject areas.

In CTS, students build skills they can apply in their everyday lives. For example, in the CTS program, particularly at the introductory levels, students have the opportunity to improve their ability to make sound consumer decisions and to appreciate environmental and safety precautions.

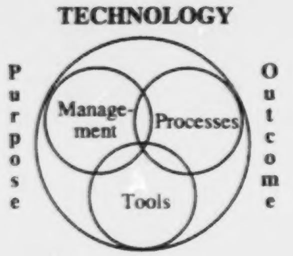


A career encompasses more than activities just related to a person's job or occupation; it involves one's personal life in both local and global contexts; e.g., as a family member, a friend, a community volunteer, a citizen of the world.

The integration of careers throughout the CTS program helps students to make effective career decisions and to target their efforts. CTS students will have the opportunity to expand their knowledge about careers, occupations and job opportunities, as well as the education and/or training requirements involved. Also, students come to recognize the need for lifelong learning.

Students in CTS have the opportunity to use and apply technology and systems effectively and efficiently. This involves:

- a decision regarding which processes and procedures best suit the task at hand
- the appropriate selection and skilled use of the tools and/or resources available
- an assessment of and management of the impact the use of the technology may have on themselves, on others and on the environment.



Integrated throughout CTS are employability skills, those basic competencies that help students develop their personal management and social skills. Personal management skills are improved as students take increased responsibility for their learning, design innovative solutions to problems and challenges, and manage resources effectively and efficiently. Social skills improve through learning experiences that require students to work effectively with others, demonstrate teamwork and leadership, and maintain high standards in safety and accountability.

As well as honing employability skills, CTS reinforces and enhances learnings developed in core and other complementary courses. The curriculum emphasizes, as appropriate, the effective application of communication and numeracy skills.

In addition to the common outcomes described above, students focusing on a particular area of study will develop career-specific competencies that support entry into the workplace and/or related post-secondary programs. Career-specific competencies can involve understanding and applying appropriate terminology, processes and technologies related to a specific career, occupation or job.

GENERAL LEARNER EXPECTATIONS

General learner expectations describe the basic competencies integrated throughout the CTS program.

Within an applied context relevant to personal goals, aptitudes and abilities; *the student* in CTS *will*:

- demonstrate the basic knowledge, skills and attitudes necessary for achievement and fulfillment in personal life
- develop an action plan that relates personal interests, abilities and aptitudes to career opportunities and requirements
- use technology effectively to link and apply appropriate tools, management and processes to produce a desired outcome
- develop basic competencies (employability skills), by:
  - selecting relevant, goal-related activities, ranking them in order of importance, allocating necessary time, and preparing and following schedules (managing learning)
  - linking theory and practice, using resources, tools, technology and processes responsibly and efficiently (managing resources)
  - applying effective and innovative decision-making and problem-solving strategies in the design, production, marketing and consumption of goods and services (problem solving and innovation)
  - demonstrating appropriate written and verbal skills, such as composition, summarization and presentation (communicating effectively)
  - participating as a team member by working cooperatively with others and contributing to the group with ideas, suggestions and effort (working with others)
  - maintaining high standards of ethics, diligence, attendance and punctuality, following safe procedures consistently, and recognizing and eliminating potential hazards (demonstrating responsibility).

PROGRAM ORGANIZATION

CURRICULUM STRUCTURE

Career and Technology Studies is organized into **strands** and **modules**.

Strands in CTS define competencies that help students:

- build daily living skills
- investigate career options
- use technology (managing, processes, tools) effectively and efficiently
- prepare for entry into the workplace and/or related post-secondary programs.

In general, strands relate to selected industry sectors offering positive occupational opportunities for students. Some occupational opportunities require further education after high school, and some allow direct entry into the workplace. Industry sectors encompass goods-producing industries, such as agriculture, manufacturing and construction; and service-producing industries, such as business, health, finance and insurance.

Modules are the building blocks for each strand. They define what a student is expected to know and be able to do (exit-level *competencies*). Modules also specify prerequisites. Recommendations for module parameters, such as instructional qualifications, facilities and equipment can be found in the guides to implementation.

The competencies a student must demonstrate to achieve success in a module are defined through the *module learner expectations*. Senior high school students who can demonstrate the module learner expectations; i.e., who have the designated competencies, will qualify for one credit toward their high school diploma.

Specific learner expectations provide a more detailed framework for instruction. Within the context of module learner expectations, the specific learner expectations further define the knowledge, skills and attitudes the student should acquire.

The following chart shows the 22 strands that comprise the CTS program and the number of modules available in each strand.

Strand	No. of Modules
1. Agriculture	33
2. Career Transitions	28
3. Communication Technology	33
4. Community Health	31
5. Construction Technologies	46
6. Cosmetology	58
7. Design Studies	31
8. Electro-Technologies	37
9. Energy and Mines	26
10. Enterprise and Innovation	8
11. Fabrication Studies	41
12. Fashion Studies	29
13. Financial Management	14
14. Foods	37
15. Forestry	21
16. Information Processing	48
17. Legal Studies	13
18. Logistics	12
19. Management and Marketing	19
20. Mechanics	54
21. Tourism Studies	24
22. Wildlife	17

LEVELS OF ACHIEVEMENT

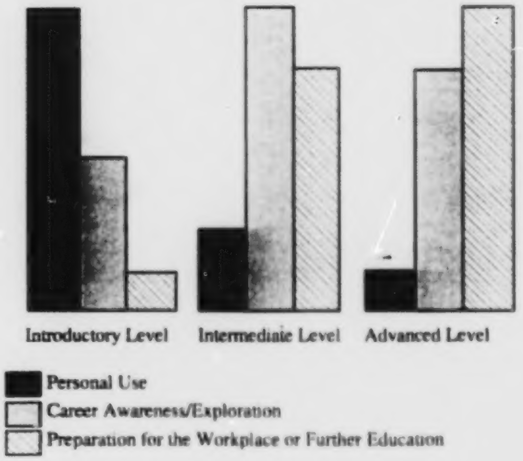
Modules are organized into three levels of achievement: **introductory**, **intermediate** and **advanced**. As students progress through the levels, they will be expected to meet higher standards and demonstrate an increased degree of competence, in both the general learner expectations and the module learner expectations.

Introductory level modules help students build daily living skills and form the basis for further learning. Introductory modules are for students who have no previous experience in the strand.

Intermediate level modules build on the competencies developed at the introductory level. They provide a broader perspective, helping students recognize the wide range of related career opportunities available within the strand.

Advanced level modules refine expertise and help prepare students for entry into the workplace or a related post-secondary program.

The graph below illustrates the relative emphasis on the aspects of career planning at each of the levels.



CURRICULUM AND ASSESSMENT STANDARDS

Curriculum standards in CTS define what students must know and be able to do. Curriculum standards are expressed through general learner expectations for CTS, and through module and specific learner expectations for each strand.

Assessment standards define how student performance is to be judged. In CTS, each assessment standard defines the conditions and criteria to be used for assessing the competencies of each module learner expectation. To receive credit for a module, students must demonstrate competency at the level specified by the conditions and criteria defined for each module learner expectation.

Students throughout the province receive a fair and reliable assessment as they use the standards to guide their efforts, thus ensuring they participate more effectively and successfully in the learning and assessment process. Standards at advanced levels are, as much as possible, linked to workplace and post-secondary entry-level requirements.

TYPES OF COMPETENCIES

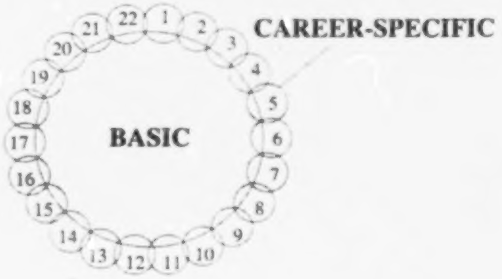
Two types of competencies are defined within the CTS program: basic and career-specific.

Basic competencies are generic to any career area and are developed within each module. Basic competencies include:

- personal management: e.g., managing learning, being innovative, ethics, managing resources
- social: e.g., communication, teamwork, leadership and service, demonstrating responsibility (safety and accountability).

Career-specific competencies relate to a particular strand. These competencies build daily living skills at the introductory levels and support the smooth transition to the workplace and/or post-secondary programs at the intermediate and advanced levels.

The model below shows the relationship of the two types of competencies within the 22 strands of the CTS program.



BASIC COMPETENCIES REFERENCE GUIDE

The chart below outlines basic competencies that students endeavour to develop and enhance in each of the CTS strands and modules. Students' basic competencies should be assessed through observations involving the student, teacher(s), peers and others as they complete the requirements for each module. In general, there is a progression of task complexity and student initiative as outlined in the Developmental Framework★. **As students progress through Stages 1, 2, 3 and 4 of this reference guide, they build on the competencies gained in earlier stages**. Students leaving high school should set themselves a goal of being able to demonstrate Stage 3 performance.

Suggested strategies for classroom use include:

- having students rate themselves and each other
- using in reflective conversation between teacher and student
- highlighting areas of strength
- tracking growth in various CTS strands
- highlighting areas upon which to focus
- maintaining a student portfolio.

Stage 1— *The student:*	**Stage 2**— *The student:*	**Stage 3**— *The student:*	**Stage 4**— *The student:*
Managing Learning			
☐ comes to class prepared for learning	☐ →	☐ →	☐ →
☐ follows basic instructions, as directed	☐ follows instructions, with limited direction	☐ follows detailed instructions on an independent basis	☐ →
	☐ sets goals and establishes steps to achieve them, with direction	☐ sets clear goals and establishes steps to achieve them	☐ demonstrates self-direction in learning, goal setting and goal achievement
☐ acquires specialized knowledge, skills and attitudes	☐ applies specialized knowledge, skills and attitudes in practical situations	☐ transfers and applies specialized knowledge, skills and attitudes in a variety of situations	☐ transfers and applies learning in new situations; demonstrates commitment to lifelong learning
☐ identifies criteria for evaluating choices and making decisions	☐ identifies and applies a range of effective strategies for solving problems and making decisions	☐ uses a range of critical thinking skills to evaluate situations, solve problems and make decisions	☐ thinks critically and acts logically to evaluate situations, solve problems and make decisions
☐ uses a variety of learning strategies	☐ explores and uses a variety of learning strategies, with limited direction	☐ selects and uses effective learning strategies	☐ →
		☐ cooperates with others in the effective use of learning strategies	☐ provides leadership in the effective use of learning strategies
Managing Resources			
☐ adheres to established timelines; uses time/schedules/planners effectively	☐ creates and adheres to timelines, with limited direction; uses time/schedules/planners effectively	☐ creates and adheres to detailed timelines on an independent basis; prioritizes task; uses time/schedules/planners effectively	☐ creates and adheres to detailed timelines; uses time/schedules/planners effectively; prioritizes tasks on a consistent basis
☐ uses information (material and human resources), as directed	☐ accesses and uses a range of relevant information (material and human resources), with limited direction	☐ accesses a range of information (material and human resources), and recognizes when additional resources are required	☐ uses a wide range of information (material and human resources) in order to support and enhance the basic requirement
☐ uses technology (facilities, equipment, supplies), as directed, to perform a task or provide a service	☐ uses technology (facilities, equipment, supplies), as appropriate, to perform a task or provide a service, with minimal assistance and supervision	☐ selects and uses appropriate technology (facilities, equipment, supplies) to perform a task or provide a service on an independent basis	☐ recognizes the monetary and intrinsic value of managing technology (facilities, equipment, supplies)
☐ maintains, stores and/or disposes of equipment and materials, as directed	☐ maintains, stores and/or disposes of equipment and materials, with limited assistance	☐ maintains, stores and/or disposes of equipment and materials on an independent basis	☐ demonstrates effective techniques for managing facilities, equipment and supplies
Problem Solving and Innovation			
☐ participates in problem solving as a process ☐ learns a range of problem-solving skills and approaches	☐ identifies the problem and selects an appropriate problem-solving approach, responding appropriately to specified goals and constraints	☐ thinks critically and acts logically in the context of problem solving	☐ identifies and resolves problems efficiently and effectively
☐ practices problem-solving skills by responding appropriately to a clearly defined problem, specified goals and constraints, by: – generating alternatives – evaluating alternatives – selecting appropriate alternative(s) – taking action	☐ applies problem-solving skills to a directed or a self-directed activity, by: – generating alternatives – evaluating alternatives – selecting appropriate alternative(s) – taking action	☐ transfers problem-solving skills to real-life situations, by generating new possibilities ☐ prepares implementation plans ☐ recognizes risks	☐ identifies and suggests new ideas to get the job done creatively, by: – combining ideas or information in new ways – making connections among seemingly unrelated ideas – seeking out opportunities in an active manner

BEST COPY AVAILABLE

Stage 1— *The student:*	**Stage 2**— *The student:*	**Stage 3**— *The student:*	**Stage 4**— *The student:*
Communicating Effectively			
☐ uses communication skills; e.g., reading, writing, illustrating, speaking	☐ communicates thoughts, feelings and ideas to justify or challenge a position, using written, oral and/or visual means	☐ prepares and effectively presents accurate, concise, written, visual and/or oral reports providing reasoned arguments	☐ negotiates effectively, by working toward an agreement that may involve exchanging specific resources or resolving divergent interests
☐ uses language in appropriate context	☐ uses technical language appropriately	☐ encourages, persuades, convinces or otherwise motivates individuals	☐ negotiates and works toward a consensus
☐ listens to understand and learn	☐ listens and responds to understand and learn	☐ listens and responds to understand, learn and teach	☐ listens and responds to understand, learn, teach and evaluate
☐ demonstrates positive interpersonal skills in selected contexts	☐ demonstrates positive interpersonal skills in many contexts	☐ demonstrates positive interpersonal skills in most contexts	☐ promotes positive interpersonal skills among others
Working with Others			
☐ fulfills responsibility in a group project	☐ ——►——►	☐ seeks a team approach, as appropriate, based on group needs and benefits; e.g., idea potential, variety of strengths, sharing of workload	☐ leads, where appropriate, mobilizing the group for high performance
☐ works collaboratively in structured situations with peer members	☐ cooperates to achieve group results	☐ works in a team or group: – encourages and supports team members – helps others in a positive manner – provides leadership/followership as required – negotiates and works toward consensus as required	☐ understands and works within the context of the group
☐ acknowledges the opinions and contributions of others in the group	☐ maintains a balance between speaking, listening and responding in group discussions		☐ prepares, validates and implements plans that reveal new possibilities
	☐ respects the feelings and views of others		
Demonstrating Responsibility			
Attendance			
☐ demonstrates responsibility in attendance, punctuality and task completion	☐ ——►——►	☐ ——►——►	☐ ——►——►
Safety			
☐ follows personal and environmental health and safety procedures	☐ recognizes and follows personal and environmental health and safety procedures	☐ establishes and follows personal and environmental health and safety procedures	☐ transfers and applies personal and environmental health and safety procedures to a variety of environments and situations
☐ identifies immediate hazards and their impact on self, others and the environment	☐ identifies immediate and potential hazards and their impact on self, others and the environment	☐ ——►——►	☐ ——►——►
☐ follows appropriate/emergency response procedures	☐ ——►——►	☐ ——►——►	☐ ——►——►
			☐ demonstrates accountability for actions taken to address immediate and potential hazards
Ethics			
☐ makes personal judgements about whether or not certain behaviours/actions are right or wrong	☐ assesses how personal judgements affect other peer members and/or family; e.g., home and school	☐ assesses the implications of personal/group actions within the broader community; e.g., workplace	☐ analyzes the implications of personal/group actions within the global context
			☐ states and defends a personal code of ethics as required

***Developmental Framework**			
• *Simple task* • *Structured environment* • *Directed learning*	• *Task with limited variables* • *Less structured environment* • *Limited direction*	• *Task with multiple variables* • *Flexible environment* • *Self-directed learning, seeking assistance as required*	• *Complex task* • *Open environment* • *Self-directed/self-motivated*

BEST COPY AVAILABLE

LOGISTICS

B. STRAND RATIONALE AND PHILOSOPHY

Logistics involves the movement of goods from producer to consumer. It is the integrating process that includes designing, controlling, implementing, managing and operating the transportation of goods, including information.

Logistics systems occupy unique places in our economy. Although used by all, the systems are often ignored or taken for granted by users. However, logistics provide solutions for the often used but highly oversimplified statement: *"Nobody is where they want to be; nothing is where it is needed."*

Logistics systems interact in both government and private sectors. In the process of moving goods by land (on, above and below), air and water and in space, it affects all facets of daily living—the environment, where people live, how and where they work, and the availability and accessibility of goods and travel for personal, commercial and industrial use.

The logistics sector is both diverse and complex, and it is an essential force in the social, cultural and economic development of Canada. This sector links Canadians to other nations and peoples, and with sophisticated systems (information management, personnel management, operating and marketing), providing many challenging and rewarding career opportunities for suitably qualified people.

Logistics, a strand in Career and Technology Studies, provides opportunities for students to increase their knowledge and appreciation about the scope and roles of each subsector of Logistics, the importance of these subsectors to daily living, business and commerce, and the affect of different modes of transportation on natural environments. Logistics also enables students to prepare for their roles as users of logistics systems and services and to explore and prepare for related careers.

Logistics encourages the use of the student-centred process approach, which combines the development of thinking processes and practical skills in realistic learning situations. Throughout the program students are encouraged to solve problems, make decisions and develop the abilities and flexibility to adapt quickly to new situations including changes in careers.

The emerging workplace requires that new entrants be lifelong learners who are able to access information and use technology to help solve problems and make decisions. Within the philosophy of Career and Technology Studies, *students* in Logistics *will*:

- develop daily living and career competencies
- become responsible citizens

- appreciate and understand the role and impact of logistics in the home, school and workplace

- identify and access career opportunities in logistics and appreciate the preparation needed to enter and progress in related fields

- develop confidence and flexibility as they assume adult roles and responsibilities and move into the workplace and/or further education and training programs

- study, practise and achieve success in life-skills and career-related competencies

- identify, practise and maintain high standards of safety and ethical conduct in logistics related activities.

In order to achieve these competencies, *the student will*:

- apply knowledge, skills and attitudes from other disciplines in contexts related to self, family, workplace

- develop basic and career-specific skills that have applications for personal use and specific applications in the world of work

- develop positive attitudes towards work through participation in realistic learning activities in varied learning environments

- develop a more positive self-concept for assuming increasingly complex roles and responsibilities

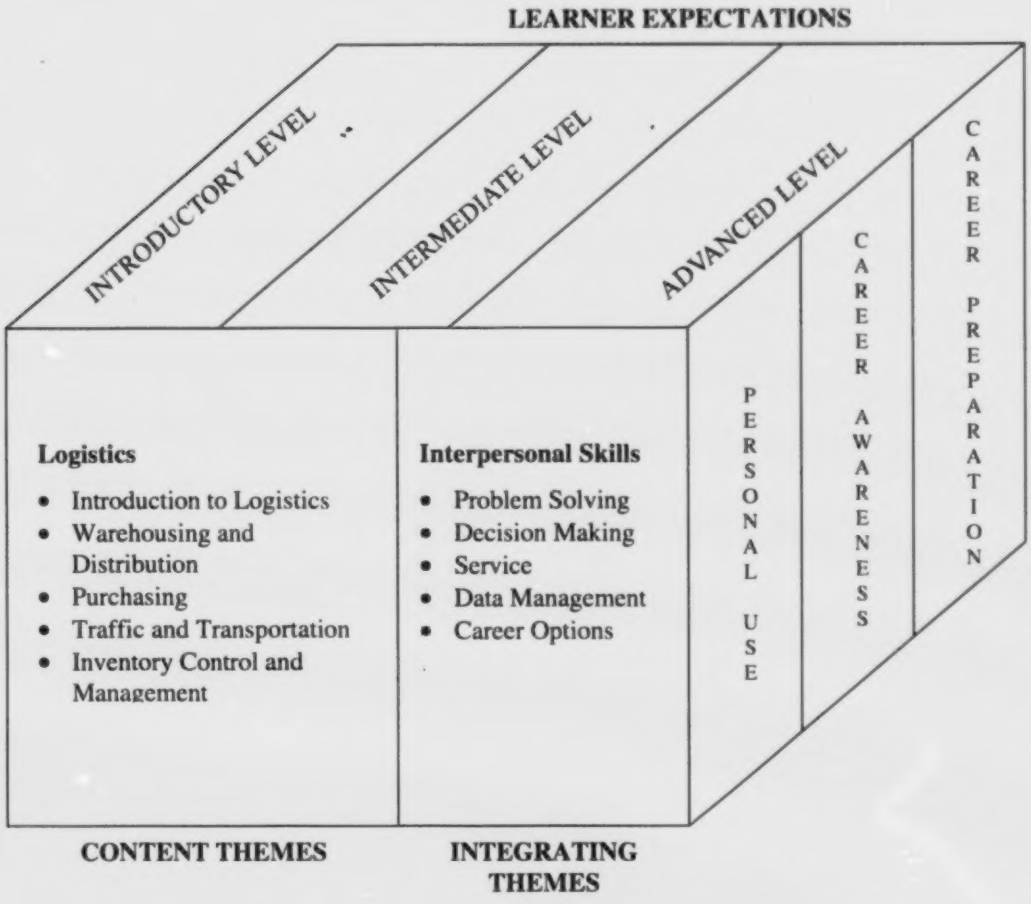
- develop a greater awareness of the role of logistics-related businesses and industries in society, and the potential for enterprise and innovation within the logistics industry.

STRAND ORGANIZATION

The Logistics model below identifies the major dimension of the strand:

- learner expectations
- content themes
- integrating themes
- learning contexts.

Logistics modules may be offered individually for 1 credit each combined with modules from other CTS strands, or as courses that comprise 3, 4 or 5 modules for 3, 4 or 5 credits, respectively.


LEARNER EXPECTATIONS
INTRODUCTORY LEVEL
INTERMEDIATE LEVEL
ADVANCED LEVEL
CAREER PREPARATION
CAREER AWARENESS
PERSONAL USE
Logistics
• Introduction to Logistics
• Warehousing and Distribution
• Purchasing
• Traffic and Transportation
• Inventory Control and Management
Interpersonal Skills
• Problem Solving
• Decision Making
• Service
• Data Management
• Career Options
CONTENT THEMES
INTEGRATING THEMES

INTRODUCTORY	INTERMEDIATE	ADVANCED	THEME
Logistics ✠ *LOG1010*			Introduction to Logistics
Warehouse & Distribute 1 *LOG1020*	Warehouse & Distribute 2 *LOG2010*	Warehouse & Distribute 3 *LOG3010*	Warehousing and Distribution
Traffic & Transport 1 *LOG1030*	Traffic & Transport 2 *LOG2020*	Traffic & Transport 3 *LOG3020*	Traffic and Transportation
Purchasing 1 *LOG1040*	Purchasing 2 *LOG2030*	Purchasing 3 *LOG3030*	Purchasing
	Inventory Management 1 *LOG2040*	Inventory Management 2 *LOG3040*	Inventory Management and Control

——— Prerequisite . . . . Recommended sequence

✠ Prerequisite to all modules in this strand.

BEST COPY AVAILABLE

MODULE DESCRIPTIONS

Module LOG1010: Logistics
Students identify logistics as a sector in Canada's economy, by describing related subsectors, users and providers of logistics services. Students also identify current and emerging career paths in logistics.

Module LOG1020: Warehouse & Distribute 1
Students explore warehousing and distribution systems as subsectors of logistics and participate in warehousing, materials handling systems, stock placement and documentation activities.

Module LOG1030: Traffic and Transport 1
Students distinguish among modes, vehicles and vessels involved in transportation, identify the advantages and disadvantages of single mode and intermodal usages, and demonstrate basic skills relating to map reading, technology, handling equipment and handling dangerous goods.

Module LOG1040: Purchasing 1
Students identify the role of purchasing, distinguish between public and private purchasing activities, perform expediting activities, and provide service to internal and external customers.

Module LOG2010: Warehouse & Distribute 2
Students examine types of warehousing and develop basic skills in packaging, packing, documentation and materials handling. Students also explore bonding principles and practices and career opportunities within the warehousing and distribution sector.

Module LOG2020: Traffic & Transport 2
Students develop basic skills in tracking, route planning, scheduling, load planning and other competencies related to handling outgoing shipments, including documentation, customs (import and export), weather and climate conditions, and strategies for preventive maintenance in traffic and transportation.

Module LOG2030: Purchasing 2
Students develop an understanding of the principles of locus of control, economies of scale, risk management, surface and hidden costs, tendering and procurement. Students also perform purchasing activities and address related factors, including budgets and inflation, within an organization's decision-making structure.

Module LOG2040: Inventory Management 1
Students identify the role of inventory management and control, and participate in and demonstrate basic abilities to manage and control inventory.

Module LOG3010: Warehouse & Distribute 3
Students develop an understanding and competencies relating to stock movement and placement procedures, product tracking and the use of automated warehouse systems. Students also develop competencies in labelling, containerizing and palletizing items.

Module LOG3020: Traffic & Transport 3
Students explore transport regulations and licencing, and develop competency in planning a route and developing contingency plans.

Module LOG3030: Purchasing 3
Students develop knowledge about contract and business law, supplier quality assurance and performance management. Students also develop negotiation skills and an appreciation for the importance of professional ethics.

Module LOG3040: Inventory Management 2
Students demonstrate competencies relating to product movement and replenishment strategies, budgeting, internal controls and asset recovery.

SECTION C: PLANNING FOR INSTRUCTION

CTS provides increased opportunities for junior and senior high schools to design courses based on the needs and interests of their students and the circumstances within the school and community. Some strands may be appropriately introduced at the junior high school level. Other strands are more appropriately introduced at the senior high school level or to Grade 9 students. Refer to this section for recommendations regarding the Logistics strand, or the *Career & Technology Studies Manual for Administrators, Counsellors and Teachers* for a summary of the recommended grade levels for each strand.

PLANNING FOR CTS

Defining Courses

Schools determine which strands and modules will be offered in a particular school, and will combine modules into courses.

Each module was designed for approximately 25 hours of instruction. However, this time frame is only a guideline to facilitate planning. The CTS curricula are competency based, and the student may take more or less time to gain the designated competencies within each module.

A course will usually consist of modules primarily from the same strand but, where appropriate, may include modules from other CTS strands. Refer to the *Career & Technology Studies Manual for Administrators, Counsellors and Teachers* (Appendix 4) for more information on course names and course codes.

Module selection and sequencing should consider:

- prerequisite(s)
- supporting module(s) (other CTS modules that may enhance the learning opportunity if offered with the module)
- module parameters:
  - instructional qualifications, if specialized
  - equipment and facility requirements, if specialized; e.g., safety modules.

The module parameters are defined for each module in Sections D, E and F of this Guide.

Degree of Flexibility

The CTS program, while designed using the modular structure to facilitate flexible timetabling and instructional delivery, does not mandate the degree of flexibility a school or teacher will offer. The teacher and school will determine the degree of flexibility available to the student. Within the instructional plan established by the school, the student may:

- be given the opportunity to progress at a rate that is personally challenging
- have increased opportunity to select modules that develop competencies he or she finds most relevant.

Integrating Basic Competencies

The basic competencies relate to managing learning and resources, problem solving and innovation, communicating effectively, working with others and demonstrating responsibility are developed throughout the CTS program, and are within each module.

Assessment of student achievement on the basic competencies is integrated throughout the other module learner expectations. Refer to Section G (Assessment Tools) of this Guide for the description of student behaviours expected at each of the four developmental stages defined for the basic competencies.

Assessment of basic competencies could include input and reflection involving the student, teacher(s), peers and others. Description of the observed behaviour could be provided through a competency profile for the module. Positive, ongoing interaction between the student and teacher will support motivation for student growth and improvement.

Assessing Student Achievement

Assessing student competency is a process of gathering information by way of observations of process, product and student interaction.

Where appropriate, assessment tools have been defined to assist the teacher and student in the assessment. Refer to Section G (Assessment Tools) of this Guide for copies of the various tools (worksheets, checklists, sample questions, etc.).

A suggested emphasis for each module learner expectation has also been established. The suggested emphasis provides a guideline to help teachers determine time allocation and/or the appropriate emphasis for each MLE and student grade.

The Competency Profiles/Assessment Checklists have been validated with logistics professionals and may be most useful when the majority of student learning in the Logistics modules takes place in off-campus settings.

Recognizing Student Achievement

At the high school level, successful demonstration of the exit-level competencies in a module qualifies the student for one credit. Refer to Section A of this Guide for more detailed information about how curriculum and assessment standards are defined in CTS. Refer to the *Career & Technology Studies Manual for Administrators, Counsellors and Teachers* (Appendix 12) for more information on how student achievement can be recognized and reported at the school and provincial levels.

Portfolios

When planning for instruction and assessment, consider a portfolio as an excellent tool to provide evidence of a student's effort, progress and achievement. Portfolios will aid students in identifying skills and interest. They also provide the receiving teacher, employer and/or post-secondary institution proof of a student's accomplishments. The make-up and evaluation of the portfolio should be a collaborative agreement between the student and teacher.

Resources

A comprehensive resource base, including print, software and audio-visual, has been identified to support CTS strands It is intended that these resources will form the basis of a resource centre, encouraging teachers and students to access a wide selection of resources and other information sources throughout the learning process. Unless otherwise noted, these resources are considered to be suitable for both junior and senior high school students.

Authorized resources may be obtained from the Learning Resources Distributing Centre or directly from the publisher or distributor. Refer to Section I (Learning Resource Guide) of this Guide for the complete resource list including curriculum correlations and resource annotations. Additional sources refer to noncommercial or government agencies that offer resources that may be of assistance in this strand.

Sample Student Learning Guides

In addition to the resources, a Sample Student Learning Guide Template is available (refer to Section J of this Guide), and includes the following components:

Why take this module?
- What are the entry-level competencies?
- What are the exit-level competencies?
- What resources may be accessed?
- What assignments/activities must be completed?
- What are the timelines?
- How will the final mark be calculated?

PLANNING FOR LOGISTICS

The following suggestions are provided to assist teachers and school and school system administrators as they plan to deliver modules from the Logistics strand.

Selecting Modules

The scope and sequence chart in Section B provides an overview of the Logistics modules, indicating prerequisites and theme areas. Brief descriptions of the modules follow the scope and sequence chart in Section B.

At the junior high level, students may complete the Logistics module (LOG1010) or explore a range of competencies required in logistics by completing components from two or more of the introductory level modules.

At the senior high level, students are expected to complete successfully Logistics (LOG1010) as a prerequisite or corequisite to subsequent modules in the Logistics strand.

Schools may choose to offer high school students the option of enrolling in a course composed of modules from:

- one Logistics theme
- two or more Logistics themes
- two or more CTS strands.

Instructional Strategies

Where appropriate, off-campus education instructional strategies should be considered to ensure that student learning is achieved in environments representative of the logistics sector.

Teachers are encouraged to offer Logistics (LOG1010), at least in part, in school and to use community resources to expand and enrich the context and content of the module.

At the senior high level, the Logistics modules shown in the Logistics scope and sequence chart may be offered by schools as a 3-credit course, or they may be grouped together with modules from other strands as 3-, 4-, 5- or 6-credit courses.

Following are a few examples of how Logistics modules may be grouped into sample courses.

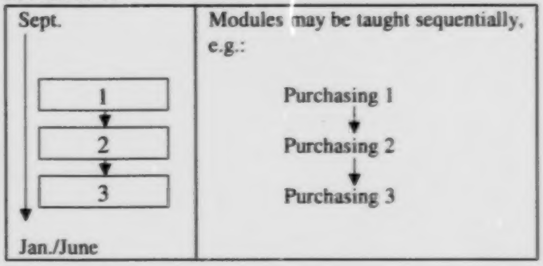
4 credits	• Logistics • Warehouse & Distribute 1 • Traffic & Transport 1 • Purchasing 1
3 credits	• Logistics • Inventory Management 1 • Inventory Management 2
5 credits	• Logistics • Warehouse & Distribute 1 • Warehouse & Distribute 2 • Purchasing 1 • Purchasing 2

Organizing for Learning

Before selecting modules, teachers should check the module parameters outlined in each module (see Sections D, E and F of this Guide).

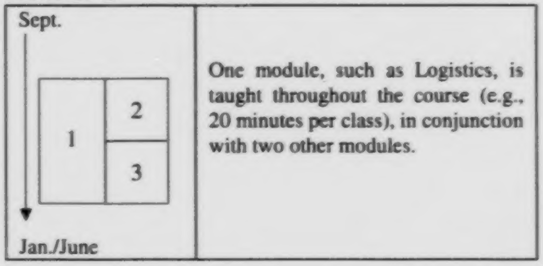
Modules can be delivered sequentially, concurrently or combined. For example:

Scenario A



Modules may be taught sequentially, e.g.:

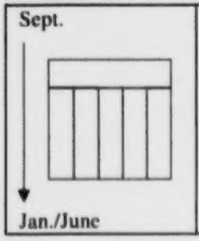
Scenario B



One module, such as Logistics, is taught throughout the course (e.g., 20 minutes per class), in conjunction with two other modules.

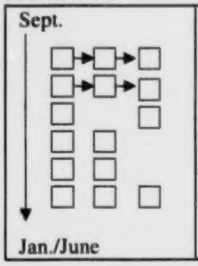
Teachers can also allow students to progress at a rate that is personally challenging; e.g.:

Scenario C



All students take one or two modules together, then are able to select modules from a list of modules.

Scenario D



From a list of modules selected by the teacher, the students select which ones they will work on and, in consultation with the teacher, establish timelines for completion and submission of assignments, etc.

Identifying Linkages

Modules in this strand may be taken in isolation from other CTS strands, or in combination with modules in other CTS strands. Suggestions about how these modules could be used to complement and enhance the competencies developed within a specific strand are outlined in Section H of this Guide.

In particular, modules from the following strands can enhance and complement competencies developed through completing modules from the Logistics strand:

- Career Transitions
  - Career Readiness theme
  - Job Safe Skills theme
  - Leadership theme
- Management & Marketing
- Information Processing.

Note that project modules from the Logistics strand may be combined with modules from other strands to provide increased opportunity for students to develop expertise and refine their competencies. Project modules are **not** designed to be offered as distinct courses and should **not** be used to extend Work Experience 15, 25 and 35 courses.

Improving Smooth Transitions to the Workplace and/or Related Post-secondary Programs

Refer to Section H of this Guide for potential transitions students may make into the workplace and/or related post-secondary programs or other avenues for further learning.

MODULE CURRICULUM AND ASSESSMENT STANDARDS:

SECTION D: INTRODUCTORY LEVEL

The following pages define the curriculum and assessment standards for the introductory level of Logistics.

Introductory level modules help students build daily living skills and form the basis for further learning. Introductory modules are developed for students who have no previous experience in the strand.

Module learner expectations define the competencies a student must demonstrate to achieve success in a module. Assessment standards define the criteria and conditions to be used for assessing the competencies defined in the module learner expectations.

Specific learner expectations provide a detailed framework for instruction to help students build the competencies defined in the module learner expectations. Additional information and suggestions for instruction are provided in the Notes column; teachers may wish to use this space to record their ideas for instruction or student projects.

Module LOG1010: Logistics D.3
Module LOG1020: Warehouse & Distribute 1 .... D.7
Module LOG1030: Traffic & Transport 1 .... D.11
Module LOG1040: Purchasing 1 .... D.15

MODULE LOG1010: LOGISTICS

Level: Introductory

Theme: Introduction to Logistics

Prerequisite: None

Module Description: Students identify logistics as a sector in Canada's economy, by describing related subsectors, users and providers of logistics services. Students also identify current and emerging career paths in logistics.

Module Parameters: Access to persons knowledgeable about logistics, logistics subsectors and logistics operations.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• explain the role and significance of logistics in everyday living	• a report outlining the logistics sector, subsectors and their relationship	30
• identify and describe: – subsectors of logistics – relationships among logistics subsectors		
• explain the role of logistics in the production of a simple item to its availability and use by a satisfied customer	• production of a flow chart showing the logistics operations used in the production of an item to its use by a consumer	50
• identify and describe current and emerging career paths and opportunities within the logistics sector	• a chart showing career paths, opportunities and qualifications required at the different levels and in the different subsectors of logistics. *Assessment Tool* *LOG1010: Logistics Competency Profile and Assessment Checklist* *Standard* *A minimum performance rating of 1 for each applicable area of assessment*	20

BEST COPY AVAILABLE

MODULE LOG1010: LOGISTICS (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • demonstrate basic competencies.	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
Logistics, Producers, Distributors and Consumers	*The student should:* • define: – logistics – producers – distributors – consumers • describe logistics subsectors including: – warehousing and distribution – traffic and transportation – purchasing – inventory management and control – production materials movement • describe why logistics is seen to be significant in everyday living.	Local and provincial telephone and business directories will provide listings under various headings.
From Production to Consumer	• for a selected item, identify and describe how the logistics sector and subsectors affect the production, distribution and eventual availability and use to consumers.	Select a simple product (e.g., a hamburger, a running shoe). Brainstorm logistics-related services necessary at each stage of its production to its final use.
Users and Suppliers	• identify and distinguish between users and suppliers of logistic services • list examples of local, provincial, national and international users and suppliers of logistics services.	

MODULE LOG1010: LOGISTICS (continued)

Concept	Specific Learner Expectations	Notes
Third-party Logistics	*The student should:* • explain the term third-party logistics and provide an example of third-party logistics users and suppliers.	
Customer Service and Satisfaction	• define the terms customer service and customer satisfaction • explain the importance of customer service and satisfaction in logistics • list and describe examples of customer service provided within a logistics operation • describe strategies and instruments used to assess levels of customer service and satisfaction.	
Careers in Logistics	• identify and describe current and emerging career opportunities in logistics subsectors • describe abilities, qualifications and credentials that would be of value in a logistics-related career; e.g., employability skills, physical skills.	Check for logistics-related sector publications. Check classified and display advertisements in local and national newspapers.

MODULE LOG1020: WAREHOUSE & DISTRIBUTE 1

Level: Introductory

Theme: Warehousing and Distribution

Prerequisite: LOG1010 Logistics

Module Description: Students explore warehousing and distribution systems as subsectors of logistics and participate in warehousing, materials handling systems, stock placement and documentation activities.

Module Parameters: Access to one or more logistics operations.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• identify and describe the roles of warehousing and distribution in logistics	• the student's clarity and accuracy in: – reporting on role of warehousing in logistics	20
• identify, describe and demonstrate materials handling: – systems/processes – stock placement	– reporting on materials-handling processes	10
	– demonstrating appropriate materials handling procedures	30
• read, interpret and complete appropriate documentation	• accuracy in selecting and completing documentation. *Assessment Tool* *LOG1020: Warehouse & Distribute 1 Competency Profile and Assessment Checklist*	40
• demonstrate basic competencies.	• observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above* *Standard* *A minimum performance rating of 1 for each applicable area of assessment*	Integrated throughout

BEST COPY AVAILABLE

MODULE LOG1020: WAREHOUSE & DISTRIBUTE 1 (continued)

Concept	Specific Learner Expectations	Notes
	The student should:	
Warehousing and Distribution		
• Processes	• identify and describe processes involved in: – warehousing operations – distribution operations	
• Roles	• explain the roles of warehousing and distribution in the logistics sector	
• Purposes	• distinguish between the purposes of warehousing and the purpose of distribution	
• Significance	• explain the significance of warehousing roles and distribution roles in the logistics process.	
Safety		
• Requirements	• identify and describe general and specific safety requirements in warehousing and distribution operations • identify and demonstrate safe work practices associated with: – flow of materials – movement of equipment – WHMIS requirements – wearing of protective clothing/personal protective equipment	
• Signs and Symbols	• identify and interpret signs and symbols used in warehousing and distribution operations	
• Hazard Reports	• identify potential hazards within a warehousing and distribution workplace.	
Documentation	• identify and describe the purpose of documentation used in: – warehousing operations – distribution operations • distinguish among: – packing slips – bills of lading – advance shipment notices – distribution sheets – other available documents	

Concept	Specific Learner Expectations	Notes
	The student should:	
• Accuracy and Attention to Detail	• explain why accuracy and attention to detail are important when completing, reading and interpreting documents • complete appropriate documentation in: – warehousing situations – distribution situations	
• Electronic Data Interchange (EDI)	• identify and explain the role and impact of technology in the generation of documentation in warehousing and distribution operations • explain the concept of Electronic Data Interchange (EDI) • demonstrate basic ability to use the computer and software.	
Materials Handling • Stock Placement	• describe and explain the concept of materials handling • identify and describe product movement and placement procedures • demonstrate safe stock handling and moving procedures.	
Career Opportunities	• identify and describe current and emerging career opportunities specific to: – warehousing – distribution • identify and describe requirements for entry into a warehousing and distribution career at: – entry level – skilled level – supervisory level – management level.	Include physical fitness, academic, willingness to learn, teamwork, numeracy and communication requirements/abilities in discussions of requirements.

MODULE LOG1030: TRAFFIC & TRANSPORT 1

Level: Introductory

Theme: Traffic and Transportation

Prerequisite: LOG1010 Logistics

Module Description: Students distinguish among modes, vehicles and vessels involved in transportation, identify the advantages and disadvantages of single mode and intermodal usages, and demonstrate basic skills relating to map reading, technology, handling equipment and handling dangerous goods.

Module Parameters: Access to logistics-related traffic and transportation operations; a driver's licence may be required.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• identify modes of transportation and vehicles and vessels used in each mode	• the student's ability to report on: – transportation modes, vehicles and vessels	20
• differentiate and explain the advantages and disadvantages of: – single mode usages – intermodal usages	– single mode and intermodal usages	10
	– impact and uses on traffic and transportation	10
• demonstrate: – map-reading skills – using technology – handling dangerous goods – handling equipment	• the appropriateness, quality and level of safety demonstrated when performing basic traffic and transportation functions including: – using related technology – handling dangerous goods – equipment handling. *Assessment Tool* *LOG1030: Traffic & Transportation 1 Competency Profile and Assessment Checklist* *Standard* *A minimum performance rating of 1 for each applicable area of assessment*	60

BEST COPY AVAILABLE

MODULE LOG1030: TRAFFIC & TRANSPORT 1 (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • **demonstrate basic competencies.**	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
	The student should:	
Traffic and Transportation	• identify and describe the role of traffic and transportation in logistics • distinguish between the concepts of traffic and transportation when used in logistics contexts	
• Modes, Vehicles and Vessels	• explain the advantages and disadvantages of different vehicles and vessels used in the following modes of transportation: – air; e.g., commercial, charter – rail – surface; e.g., commercial, contract, hotshot – sea – pipeline • describe the advantages and disadvantages of using each of the following transportation systems: – single mode – intermodal.	
Product-specific Requirements	• list and describe product-specific transportation equipment available • for a selection of products, list the: – most appropriate mode of transportation – product-specific requirements; e.g., refrigeration, speed, air ride trailers for delicate equipment – other requirements; e.g., time, temperature, packing.	

Concept	Specific Learner Expectations	Notes
Map Reading	*The student should:* • demonstrate ability to use a map to: – identify specific locations – trace routes – measure distances – identify key features.	
Electronic Data Interchange (EDI) and Related Technology	• define and describe EDI • list examples of information that may be transmitted using EDI and related technology • use available hardware and software.	The resource, *EDI: Technology in Trucking*, is available from American Trucking Association/ Management Systems Council, 2200 Mill Road, Alexandria, VA 22314–4677. Telephone: 703–838–1721.
Safety Standards	• identify and describe basic safety procedures, practices and standards that must be followed in each mode and for each vehicle, such as: – on-highway standards – off-highway standards – air/sea freight standards – customer safety standards • use personal protective equipment.	Refer to Canadian Transportation Law Reports and/or related national, provincial, municipal safety legislation and regulations.
Dangerous Goods	• describe the range of goods identified as "dangerous goods" • describe the methods used to identify and label different dangerous goods • demonstrate safe handling of dangerous goods.	
Career Opportunities	• identify and describe current and emerging career opportunities specific to traffic and transportation • identify and describe requirements for entry into a purchasing career at: – entry level – skilled level – supervisory level – management level.	Include as many requirements as possible; e.g.: • academic • teamwork • communication skills • numeracy skills • ability to use technology.

MODULE LOG1040: PURCHASING 1

Level: Introductory

Theme: Introduction to Logistics

Prerequisite: LOG1010 Logistics

Module Description: Students identify the role of purchasing, distinguish between public and private purchasing activities, perform expediting activities, and provide service to internal and external customers.

Module Parameters: Access to purchasing, warehousing and distributing facility.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• describe the role of purchasing and work performed by purchasers in logistics	• the student's clarity and accuracy in reporting on: – the role of purchasing in logistics	30
• distinguish between public and private purchasing activities	• similarities/differences between public and private purchasing activities	10
• differentiate between internal and external customers	• differentiating between internal and external customers	10
• demonstrate basic competencies in: – purchasing – expediting – data handling	• accuracy and appropriateness in performing basic: – purchasing – expediting – data handling. *Assessment Tool* *LOG1040: Purchasing 1 Competency Profile and Assessment Checklist* *Standard* *A minimum performance rating of 1 for each applicable area of assessment*	50

BEST COPY AVAILABLE

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • **demonstrate basic competencies.**	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
	The student should:	
Purchasing	• identify and describe the processes involved in the purchasing subsector of logistics • explain how and where purchasing fits in the logistics process	
• Public and Private Purchasing	• distinguish between public and private purchasing activities • compare and contrast the purchasing process for goods and the purchasing process for services	
• Lines of Authority	• identify and explain in chart form the line of authority for the purchase of: – goods – services	
• Value-added Decision Making	• explain how and why purchasing decisions can add value/profitability to the logistics process.	
Centralized/ Decentralized Procedures	• identify differences and similarities between centralized purchasing procedures and decentralized purchasing procedures	
• Internal/External Customers	• distinguish between internal and external customers from a purchasing perspective	
• Customer Satisfaction	• explain why customer satisfaction is an important factor in purchasing decisions.	

MODULE LOG1040: PURCHASING 1 (continued)

Concept	Specific Learner Expectations	Notes
	The student should:	
Expediting	• for a given item, explain the production process(es) • demonstrate basic expediting procedures including: – tracking progress and time of arrival of specific orders – consulting with suppliers – anticipating problems – having a contingency plan – ensuring delivery of goods	
• Necessity	• explain the concept of "necessity" and how it relates to the purchasing process.	
Career Opportunities	• identify and describe current and emerging career opportunities specific to purchasing • identify and describe requirements for entry into a purchasing career at: – entry level – skilled level – supervisory level – management level.	Include as many requirements as possible; e.g.: • academic • teamwork • communication skills • numeracy skills • ability to use technology.

MODULE CURRICULUM AND ASSESSMENT STANDARDS:

SECTION E: INTERMEDIATE LEVEL

The following pages define the curriculum and assessment standards for the intermediate level of Logistics.

Intermediate level modules help students build on the competencies developed at the introductory level and focus on developing more complex competencies. They provide a broader perspective, helping students recognize the wide range of related career opportunities available within the strand.

Module LOG2010: Warehouse & Distribute 2 .... E.3
Module LOG2020: Traffic & Transport 2 .... E.7
Module LOG2030: Purchasing 2 .... E.13
Module LOG2040: Inventory Management 1 .... E.17

MODULE LOG2010: WAREHOUSE & DISTRIBUTE 2

Level: Intermediate

Theme: Warehousing and Distribution

Prerequisite: LOG1020 Warehouse & Distribute 1

Module Description: Students examine types of warehousing and develop basic skills in packaging, packing, documentation and materials handling. Students also explore bonding principles and practices and career opportunities within the warehousing and distribution sector.

Module Parameters: Access to one or more logistics operations.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• demonstrate an understanding of: – warehousing types, purposes, functions and operations of warehouses, locations, organization, processes and stock locator techniques	• identifying and explaining: – types, purposes and functions of warehouses – relationship between receiving, shipping and storage areas – various warehousing systems – purposes, advantages and disadvantages of various stock locator techniques	10
• identify and explain bonding principles and practices	• preparing and presenting a report on bonding:	
	– principles and practices	10
	– effects on flow of goods from producer to consumer	10
• demonstrate basic skills in shipment preparation including: – packaging – packing – document selection and completion	• demonstrating:	
	– knowledge of packing standards	10
	– packaging procedures	10
	– document selection and completion	10
• demonstrate safety, competency and confidence in: – handling materials – operating equipment and aids	• identifying, selecting and safely using appropriate equipment and aids in handling and managing materials and product. *Assessment Tool* *LOG2010: Warehouse & Distribute 2 Competency Profile and Assessment Checklist* *Standard* *A minimum performance rating of 2 for each applicable area of assessment*	40

BEST COPY AVAILABLE

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • **demonstrate basic competencies.**	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
	The student should:	
Warehousing		
• Types	• identify various types of warehouses and describe their specific purposes	
• Locations	• identify and explain where and why different types of warehouses are usually located	
• Organization	• identify and explain the purpose of and relationship between: – shipping area – receiving area – storage area	
• Systems	• identify and explain the purpose of different systems of warehousing including: – first in/first out (FIFO) – last in/first out (LIFO) – time-dated systems – non-time dated systems – bulk materials handling systems – general materials handling procedures	

MODULE LOG2010: WAREHOUSE & DISTRIBUTE 2 (continued)

Concept	Specific Learner Expectations	Notes
• Stock Locator Systems	*The student should:* • identify and explain the advantages, disadvantages and purposes for using the following stock locator systems: – random – fixed – manual – electronic • demonstrate basic ability to use stock locator systems.	
Bonding	• explain principles and practices relating to bonding; e.g.: – purpose of bonding – methods of bonding – bonding requirements • list examples of goods that are usually placed in bond • explain how bonding affects the flow of goods from producers to consumers.	
Shipment Preparation • Packaging	• distinguish between packaging and packing systems • explain the purpose of packaging • identify and describe types of packaging; e.g.: – volatile corrosive inhibiting paper (VCI paper) – blister packaging – security packaging – styrofoam – popcorn	

Concept	Specific Learner Expectations	Notes
• Packing	*The student should:* • identify and describe packing standards; e.g.: – consumer standards – industrial standards – labelling • demonstrate ability to pack items to: – minimize damage – meet rigours of shipment – regulations and standards – modal requirements – security needs	
• Documentation	• assist in completing shipping documentation; e.g.: – manifests – packing slips – bills of lading – MSDS for WHMIS products.	
Materials Handling • Equipment and Aids	• identify and describe equipment and aids used to handle various materials; e.g.: – forklifts – power lifts – power jacks – rollers • demonstrate safe product movement and placement procedures • demonstrate safety, competency and confidence in operating and handling equipment and aids.	Provincial and company regulations must be identified and followed in all situations.
Career Opportunities	• identify and describe requirements for entry into a warehousing and distribution career as a: – shipper – receiver – forklift operator – warehouse supervisor – replenishment team leader – foreman – storage area supervisor – any other warehousing and distribution position.	Include in discussions of requirements: • physical fitness • academic • willingness to learn • teamwork • numeracy • communication requirements/abilities.

MODULE LOG2020: TRAFFIC & TRANSPORT 2

Level: Intermediate

Theme: Traffic and Transportation

Prerequisite: LOG1030 Traffic & Transport 1

Module Description: Students develop basic skills in tracking, route planning, scheduling, load planning and other competencies related to handling outgoing shipments, including documentation, customs (import and export), weather and climate conditions, and strategies for preventive maintenance in traffic and transportation.

Module Parameters: Access to logistics-related traffic and transportation operations; a driver's licence may be required.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• demonstrate basic skills in: – tracking, route planning and scheduling – completing and maintaining documentation – load planning, measuring and calculating – handling equipment – preparing outgoing shipments	• demonstrating competencies in: – using tracking systems and two-way communication devices	10
	– identifying and applying various formats for planning and scheduling routes	10
	– reading and maintaining shipping and transportation manifests, log books	5
	– tracing and taking claim actions	5
	– identifying weight restrictions and applying them to product specific needs	5
	– calculating cubic capacity, displacement and density for transportation vehicles and loads	5
	– safely using equipment and aids	10
	– preparing shipments according to customer and industry requirements, and performing marshalling activities	20
• identify and describe the role of: – customs, import and export – safety standards – weather and climate conditions – preventive maintenance	– completing and maintaining import and export customs documentation	5
	– following appropriate safety standards	10
	– assisting in contingency planning for annually occurring and emergency conditions	5
	– using preventive maintenance procedures, recognizing defects, and initiating corrective measures.	10
	Assessment Tool *LOG2020: Traffic & Transport 2 Competency Profile and Assessment Checklist*	
	Standard *A minimum performance rating of 2 for each applicable area of assessment*	

BEST COPY AVAILABLE

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • **demonstrate basic competencies.**	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
Tracking, Route Planning and Scheduling	*The student should:* • explain the purpose of tracking systems • demonstrate basic ability to use: – tracking systems – two-way communication devices • demonstrate ability to use a map to plan a route; e.g.: – traditional format – computerized format • assist in planning a route • assist in planning a schedule to meet customer needs and requirements.	
Documentation	• explain the purpose of and the difference between a shipping manifest and a transportation manifest • describe the purpose of a log book • assist in maintaining a log book • initiate tracing action on delayed shipments • initiate claim action on damaged goods.	

Concept	Specific Learner Expectations	Notes
Customs, Import and Export	*The student should:* • identify and explain the purpose of import and export customs documentation • assist, where appropriate, in the preparation of import and export customs documentation; e.g.: – initiating the clearance of incoming shipments – maintaining a register • assist in maintaining an efficient filing system for all customs documentation.	
Load Planning	• list and explain the procedure for load planning • describe key factors in load planning; e.g.: – weight restrictions – product specific needs • assist in developing a load plan • assist in identifying potential carriers with respect to service, reliability and rates.	
Measurement and Calculation	• measure and calculate available space in various transportation vehicles, vessels; e.g.: – cubic capacity – displacement – density • explain the relationship of the above measurements to load planning • apply measurement and calculation skills in load planning.	
Outgoing Shipments • Packing • Packaging • Labelling • Documentation • Loading	• demonstrate ability to: – package goods to meet customer requirements and industry standards – pack items to meet shipping standards – label goods and shipments appropriately – complete outgoing documentation – assist in loading outgoing shipments.	

MODULE LOG2020: TRAFFIC & TRANSPORT 2 (continued)

Concept	Specific Learner Expectations	Notes
	The student should:	
Weather and Climate Conditions	• explain the potential impact of weather and climate conditions on: – modes of transportation – vehicles and vessels – road closures, bridge/ferry usage, seasonal road bans and weight restrictions • describe how a logistics operation deals with: – annually occurring conditions – emergency conditions; e.g., contingency planning.	
Safety Standards	• demonstrate application of appropriate safety standards including the use of: – wheel checks – reflector kits – fire extinguishers – personal protective equipment.	
Preventive Maintenance, Strategies and Procedures	• explain the purpose of preventive maintenance (PM) • identify, describe and demonstrate appropriate types of maintenance activities • describe defects and initiate corrective procedures.	
Equipment Handling	• demonstrate basic ability to handle, operate and/or use various equipment and aids relating to traffic and transportation.	Need for students to become certified as licensed before using or operating equipment or aides.
Dangerous Goods	• describe special procedures required to transport dangerous goods in each mode and for each vehicle or vessel • demonstrate special procedures and safe handling of dangerous goods.	

Concept	Specific Learner Expectations	Notes
	The student should:	
Career Opportunities	• identify and describe requirements for entry into a traffic and transportation career as: – freight checker – swamper – brokerage clerk – traffic coordinator – dispatcher – distribution supervisor.	Include a wide variety of requirements; e.g.: • academic • technical • teamwork • communication • numeracy.

MODULE LOG2030: PURCHASING 2

Level: Intermediate

Theme: Purchasing

Prerequisite: LOG1040 Purchasing 1

Module Description: Students develop an understanding of the principles of locus of control, economies of scale, risk management, surface and hidden costs, tendering and procurement. Students also perform purchasing activities and address related factors, including budgets and inflation, within an organization's decision-making structure.

Module Parameters: Access to purchasing, warehousing and distributing facility.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• demonstrate functional knowledge of key principles of: – lines of authority – economy of scale – risk management – budgeting	• preparation and presentation of a report on: – how the locus of control affects purchasing decisions – how the economy of scale principle can add value to the company – basic strategies used to manage and minimize risk – relationship between purchasing, budgeting, risk and inflation	 5 5 10 10
• distinguish between surface and hidden costs	• explaining how total ownership costs and other costs affect purchasing decisions affecting best value	10
• demonstrate basic abilities relating to: – purchasing – decision making – tendering – procurement	• demonstrating ability to: – balance quality, time and cost – assist in preparing tenders – assist in writing specifications. *Assessment Tool* *LOG2030: Purchasing 2 Competency Profile and Assessment Checklist* *Standard* *A minimum performance rating of 2 for each applicable area of assessment*	 10 25 25

BEST COPY AVAILABLE

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • **demonstrate basic competencies.**	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
Lines of Authority	*The student should:* • define the term locus of control • explain how the locus of control affects purchasing decisions • identify and describe the lines of authority for the purchasing section of the organization • operate efficiently and effectively within the identified lines of authority when assisting with purchasing activities.	
Economy of Scale	• define the term economy of scale • explain how the use of the economy of scale principle adds value to a company • list examples of an economy of scale in one or more purchasing activities.	

Concept	Specific Learner Expectations	Notes
	The student should:	
Risk Management	• define the term risk management, including: – expense items – capital equipment – production materials • identify and describe the risks associated with purchasing decisions; e.g.: – company liability – personal liability – Workers' Compensation Board (WCB) coverage • identify and chart lines of authority, responsibility and accountability in the risk management process • identify and describe basic strategies used to manage and minimize risk when purchasing decisions are made.	Risks, risk management and lines of authority may vary among different companies.
Surface and Hidden Costs	• define and provide examples of: – surface and hidden costs – initial and lifetime costs • explain how total ownership costs and other costs affect purchasing decisions; e.g.: – insurance – gas – mileage – maintenance.	
Purchasing Decision Making	• explain the concept of "best buy"; e.g.: – size – quantity – quality – cost • explain the necessity to balance quality, cost and time in making purchasing decisions.	
Tendering	• define the term tendering • identify and describe the tendering process.	

MODULE LOG2030: PURCHASING 2 (continued)

Concept	Specific Learner Expectations	Notes
Procurement	*The student should:* • define the term procurement • explain the purpose of specification writing in purchasing activities.	
Budgets	• explain the purpose or function of savings, capital accounts and operational accounts • identify individuals responsible for: – savings – budget centre usage – capital accounts – operational accounts • demonstrate a basic understanding of cost accounting principles • explain the effect of inflation upon the budget • explain the effect of the budget upon inflation • identify and describe the process by which spending decisions are made.	
Career Opportunities	• identify and describe requirements for entry into a purchasing career as a: – buyer – procurement analyst – expediting clerk – regional representative – senior buyer – any other purchasing position.	Include as many requirements as possible; e.g.: • academic • teamwork • communication skills • numeracy skills • ability to use technology.

MODULE LOG2040: INVENTORY MANAGEMENT 1

Level: Intermediate

Theme: Inventory Management and Control

Prerequisite: LOG1010 Logistics

Module Description: Students identify the role of inventory management and control, and participate in and demonstrate basic abilities to manage and control inventory.

Module Parameters: Access to inventory management and control operations.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• describe the roles of inventory management and control in logistics	• the student's clarity and accuracy in reporting on: – the role of inventory management and control systems in logistics	10
• describe and distinguish among methods to classify and categorize materials	– inventory classification and categorization systems	10
• identify and describe the purpose of key principles of inventory management and control	– key principles of inventory management and control	10
• use basic technology, and spreadsheets and databases to input, read and interpret inventory management and control	• appropriateness and accuracy in using technology: e.g., spreadsheets, databases and word processors	30
• describe and demonstrate product movement and replenishment strategies	• appropriateness in selecting and using product movement and assessment strategies. *Assessment Tool* *LOG2040: Inventory Management 1 Competency Profile and Assessment Checklist* *Standard* *A minimum performance rating of 2 for each applicable area of assessment*	40

BEST COPY AVAILABLE

MODULE LOG2040: INVENTORY MANAGEMENT 1 (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • **demonstrate basic competencies.**	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
Inventory Management and Control	*The student should:* • explain the role of inventory management and control in the logistics process • explain the purpose of and need for inventory management and control in the following contexts: – security – control – reordering • list and describe systems available to manage and control inventory: – manual – electronic – other • demonstrate basic inventory management and control procedures; e.g., picking, reordering.	

MODULE LOG2040: INVENTORY MANAGEMENT 1 (continued)

Concept	Specific Learner Expectations	Notes
Inventory Classification Systems	*The student should:* • identify and describe commonly used classification systems such as: – Standard Industrial Classification Code (SIO) – Harmonized System (HS) – North Atlantic Treaty Organization (NATO) – Military (MI) – Federal Stock Number (FIN) • describe the purpose of: – warehouse keeper's record – cycle count sheets • demonstrate basic ability to use one or more classification systems.	
Inventory Control Principles	• list and describe inventory control principles including: – ABC Analysis – Minimum-Maximum Systems – Economic Order Quantity (EOQ) – Materials Requirement Planning (MRP) – Consignment Inventory – Just-In-Time (JIT).	
Quality Control	• explain the purpose of quality control systems • describe quality control systems and procedures used in inventory management and control operations.	
Technology	• identify and describe technology used in managing and controlling inventory such as: – manual records – microfiche – databases • demonstrate basic ability to: – access inventory information – input inventory information – interpret information from various databases.	

Concept	Specific Learner Expectations	Notes
	The student should:	
Career Opportunities	• identify and describe current and emerging career opportunities specific to inventory management and control • identify requirements for entry into an inventory management control career at: – entry level – skilled level – supervisory level – management level.	Include as many requirements as possible; e.g.: • academic • teamwork • communication skills • numeracy skills • ability to use technology.

MODULE CURRICULUM AND ASSESSMENT STANDARDS:

SECTION F: ADVANCED LEVEL

The following pages define the curriculum and assessment standards for the advanced level of Logistics.

Advanced level modules demand a higher level of expertise and help prepare students for entry into the workplace or a related post-secondary program.

Module LOG3010: Warehouse & Distribute 3 .... F.3
Module LOG3020: Traffic & Transport 3 .... F.7
Module LOG3030: Purchasing 3 .... F.11
Module LOG3040: Inventory Management 2 .... F.15

MODULE LOG3010: WAREHOUSE & DISTRIBUTE 3

Level: Advanced

Theme: Warehousing and Distribution

Prerequisite: LOG2010 Warehouse & Distribute 2

Module Description: Students develop an understanding and competencies relating to stock movement and placement procedures, product tracking and the use of automated warehouse systems. Students also develop competencies in labelling, containerizing and palletizing items.

Module Parameters: Access to one or more logistics operations.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• demonstrate an understanding of: – stock movement and placement procedures and practices – product tracking – equipment operations standards – automated warehouse systems	• identifying and explaining: – stock movement and placement – product tracking services, procedures and technology – internal and external warehouse equipment operations standards – advantages and disadvantages of automated systems	40
• demonstrate competencies in: – labelling – containerization – palletizing	• competency in handling/operating:	
	– labelling equipment	20
	– containers	20
	– pallets.	20
	Assessment Tool *LOG3010: Warehouse & Distribute 3 Competency Profile and Assessment Checklist*	
	Standard *A minimum performance rating of 3 for each applicable area of assessment*	

BEST COPY AVAILABLE

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • demonstrate basic competencies.	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
Stock Movement and Placement	*The student should:* • identify and describe stock movement and placement procedures and practices • identify and correct errors in documentation • regularly review stocks and flow • anticipate product movement issues, develop contingency plans and implement solutions (where appropriate) • demonstrate safe product movement and placement procedures and practices.	
Product Tracking	• identify and describe product tracking services • identify and describe various tracking procedures • demonstrate ability to use tracking technology; e.g.: – bar codes/reader/scanner – microfiche – CD ROM – monitors – visual readers – locator systems.	
Equipment Operations Standards	• identify and describe warehouse equipment operations standards; e.g.: – internal standards (department, company) – external standards (governmental, national).	

Concept	Specific Learner Expectations	Notes
Automated Warehouse Systems	*The student should:* • explain the advantages and disadvantages of using automated warehouse systems • demonstrate ability to safely use automated systems; e.g.: – conveyor systems – pickers – scaling/weighing devices – storage and retrieval systems.	
Labelling	• identify product and/or shipment labelling needs • demonstrate ability to read, interpret, select and affix appropriate labels; e.g.: – shipping instructions – content identification – WHMIS needs – quantity, mass – handling instructions; e.g.: *fragile, This side up.*	
Containers	• explain purpose of containerization • demonstrate ability to safely operate wrapping equipment and materials; e.g.: – shrink wrap – nets – nylons • demonstrate ability to prepare containers for shipment; e.g.: – label – wrap.	
Pallets	• explain purpose of palletizing items; e.g.: – warehouse storage – ease of handling (manual, automated) – outgoing and incoming shipments.	

MODULE LOG3010: WAREHOUSE & DISTRIBUTE 3 (continued)

Concept	Specific Learner Expectations	Notes
Career Opportunities	*The student should:* • identify and describe requirements for entry into a warehousing and distribution career as a: – loss prevention manager – systems engineer – packaging supervisor – distribution centre manager – warehouse foreman – warehouse officer – warehouse manager – any other warehousing and distribution position.	Include in discussions of requirements: • physical fitness • academic • willingness to learn • teamwork • numeracy • communication requirements/abilities.

MODULE LOG3020: TRAFFIC & TRANSPORT 3

Level: Advanced

Theme: Traffic and Transportation

Prerequisite: LOG2020 Traffic & Transport 2

Module Description: Students explore transport regulations and licencing, and develop competency in planning a route and developing contingency plans.

Module Parameters: Access to logistics-related traffic and transportation operations; a driver's licence may be required.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• demonstrate competency in planning a route and developing contingency plans	• completing, with minimal assistance: – route planning – contingency planning	 30 30
• demonstrate a basic understanding of: – equipment handling certification requirements – vendor and carrier licencing and training for dangerous goods	• identifying and explaining key items of legislation and licencing that affect the traffic and transportation subsector	20
– rates and tariffs	• comparing rates and tariffs to determine contract rate	10
– liabilities	• explaining liability and insurance requirements and responsibilities.	10
	Assessment Tool *LOG3020: Traffic & Transport 3 Competency Profile and Assessment Checklist* *Standard* *A minimum performance rating of 3 for each applicable area of assessment*	

BEST COPY AVAILABLE

MODULE LOG3020: TRAFFIC & TRANSPORT 3 (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • demonstrate basic competencies.	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
Route Planning	*The student should:* • plan a route, using: – traditional map – computerized format • develop contingency plans where appropriate.	
Transport Regulations and Licencing	• identify and list key: – transportation regulations and licencing requirements – weight restrictions – seasonal restrictions – jurisdictional restrictions and requirements • list licencing required to operate different vehicles and vessels.	
Equipment Handling	• identify licencing or certification requirements for each item of transportation equipment or aid • initiate procedures to obtain a licence or certificate (where appropriate and necessary) • demonstrate consistent ability to safely handle, operate and use various equipment aids relating to traffic and transportation.	Students must be made aware of legislation and regulations relating to equipment usage or operations. Check need for students to become certified as licenced before using or operating specific equipments or aids.

Concept	Specific Learner Expectations	Notes
Dangerous Goods	*The student should:* • identify and ensure that the vendor and carrier has the necessary licencing and training to handle and transport dangerous goods • demonstrate consistently the safe handling, storage and transportation of dangerous goods.	
Rates and Tariffs	• identify and describe transportation rates and tariffs • demonstrate ability to compare present proposed rates to the previous contract rate • assist in determining the contracted rate taking into account: – market prices – costs of the supplier – customer needs.	
Liabilities	• identify liability assumed by different modes of carriers • identify and describe: – Workers' Compensation Board (WCB) requirements – insurance requirements • identify damage claimable: – items – procedures – documents • assist in completing damage claim documents • identify and report shipment over/shorts • explain the use of Bill of Lading and liabilities, and Freight on Board (FOB) • describe applications of Freight on Board statements; e.g.: – payment for carriage – selection of courier – limits of liability.	

Concept	Specific Learner Expectations	Notes
Career Opportunities	*The student should:* • identify and describe requirements for entry into a traffic and transportation career as a: – account manager – licencing/operations assistant – rates analyst – broker – fleet manager – terminal manager – transportation specialist.	Include a wide variety of requirements; e.g.: • academic • technical • teamwork • communication • numeracy.

MODULE LOG3030: PURCHASING 3

Level: Advanced

Theme: Purchasing

Prerequisite: LOG2030 Purchasing 2

Module Description: Students develop knowledge about contract and business law, supplier quality assurance and performance management. Students also develop negotiation skills and an appreciation for the importance of professional ethics.

Module Parameters: Access to purchasing, warehousing and distributing facility.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• identify and explain key principles of: – contract and business law – supplier quality assurance – performance management	• preparing and presenting a report on: – impact of business and contract law on purchasing activities – how supplier quality assurance affects purchasing decisions and activities – performance management models	 10 10 10
• demonstrate basic understanding and skills in professional ethics	• identify ethical behaviours and professional associations related to logistics	20
	• explain the purpose and process for negotiating	10
• demonstrate negotiation skills	• demonstrate negotiating skills in one or more purchasing activities. *Assessment Tool* *LOG3030: Purchasing 3 Competency Profile and Assessment Checklist* *Standard* *A minimum performance rating of 3 for each applicable area of assessment*	40

BEST COPY AVAILABLE

MODULE LOG3030: PURCHASING 3 (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • **demonstrate basic competencies.**	*Assessment of student achievement should be based on:* • observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

Concept	Specific Learner Expectations	Notes
Ethics	*The student should:* • define the term professional ethics • identify and explain the role of professional ethics in the purchasing process • define and give examples of conflict of interest • explain the role of the: – Purchasing Managerial Association of Canada (PMAC) – National Institute of Government Purchasing (NIGP) – International Federation of Purchasing and Materials Management (IFPMM).	The PMAC has an enforceable code of ethics.
Negotiation Skills	• define the term negotiate • explain the purpose of negotiating in purchasing activities • demonstrate negotiating skills in purchasing activities.	

MODULE LOG3030: PURCHASING 3 (continued)

Concept	Specific Learner Expectations	Notes
Contract and Business Law	*The student should:* • identify key principles of contract and business law; e.g.: – liens – waivers – liability – negligence • explain the impact of contract and business law on purchasing activities • identify and describe legislation that affects purchasing activities; e.g., *Sales of Goods Act* • identify purchasing activities that are in alignment with contract and business law and relevant legislation.	
Supplier Quality Assurance	• explain the principles of Supplier Quality Assurance (SQA) • identify and describe the impact of SQA on: – delivery – equality – invoicing – damaged goods – customer service.	
Performance Management	• explain the principle of performance management • identify and describe the purpose of performance management in purchasing activities • identify and describe performance management models; e.g.: – Total Quality Management (TQM) – Quality Teams • evaluate performance management models employed using appropriate assessment tools and instruments.	

MODULE LOG3030: PURCHASING 3 (continued)

Concept	Specific Learner Expectations	Notes
Career Opportunities	*The student should:* • identify and describe requirements for entry into a purchasing career as a: – cost analyst – specialty products buyer – senior purchasing agent – maintenance manager – mobile equipment buyer – director of logistics – any other purchasing position • identify and describe requirements for designation as a: – Certified Professional Purchaser (CPP) – Certified Professional Public Buyer (CPPB) – Certified Professional Purchasing Officer (CPPO).	Include as many requirements as possible; e.g.: • academic • teamwork • communication skills • numeracy skills • ability to use technology.

MODULE LOG3040: INVENTORY MANAGEMENT 2

Level: Advanced

Theme: Inventory Management and Control

Prerequisite: LOG2040 Inventory Management 1

Module Description: Students demonstrate competencies relating to product movement and replenishment strategies, budgeting, internal controls and asset recovery.

Module Parameters: Access to inventory management and control operations.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• identify, describe and apply key principles of:	• identifying, selecting and applying strategies and procedures appropriate to:	
– product movement and replenishment strategies	– product movement	20
	– product replenishment	20
– budget procedures	– budgeting	20
– internal controls	– internal controls	10
– asset recovery	– asset recovery	10
• use basic technology to affect inventory management and control	• using technology to generate and maintain spreadsheets and databases. *Assessment Tool* *LOG3040: Inventory Management 2 Competency Profile and Assessment Checklist*	20
• demonstrate basic competencies.	• observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above* *Standard* *A minimum performance rating of 3 for each applicable area of assessment*	Integrated throughout

BEST COPY AVAILABLE

MODULE LOG3040: INVENTORY MANAGEMENT 2 (continued)

Concept	Specific Learner Expectations	Notes
Product Movement and Replenishment Strategies	*The student should:* • explain the purpose of product movement and replenishment strategies • identify and describe product movement and replenishment strategies; e.g.: – degree – level – complexity • demonstrate basic product movement and replenishment strategies in inventory management and control activities.	
Budget Procedures	• explain the impact of inventory management on the budget procedure • identify key budget procedures • explain how inventory management affects: – product quality – cost control.	
Technology	• demonstrate ability to manage and control inventory using: – manual records – microfiche – spreadsheets – database systems – word processors • demonstrate ability to: – access inventory information – input inventory information – interpret information from various databases.	
Internal Controls	• explain the purpose of internal inventory controls; e.g.: – security • identify and describe the internal inventory controls in effect; e.g.: – managerial practices – inventory flow – paper trail • demonstrate basic ability to use and maintain internal inventory controls.	

MODULE LOG3040: INVENTORY MANAGEMENT 2 (continued)

Concept	Specific Learner Expectations	Notes
Asset Recovery	*The student should:* • explain the concept of asset recovery • identify and describe strategies for asset recovery; e.g.: – asset disposition – recycling – reuse – recovery • assist in asset recovery activities.	
Career Opportunities	• identify requirements for entry into an inventory management control career as a: – picker – order clerk – inventory analyst – loss prevention manager – software support buyer – Maintenance Repair and Operating (MRO) inventory specialist.	Include as many requirements as possible; e.g.: • academic • teamwork • communication skills • numeracy skills • ability to use technology.

LOGISTICS

SECTION G: ASSESSMENT TOOLS

The following pages comprise background information and strategies for assessing student achievement and the assessment tools that are listed in Sections D, E and F of this Guide.

This section of the Guide to Standards and Implementation has been designed to provide a common base of understanding about the level of competencies students are expected to demonstrate to successfully complete a module. The goal is to establish assessment standards for junior and senior high school students that are fair, credible and challenging.

These tools will assist teachers throughout the province to more consistently assess student achievement. The purpose of expanding on the assessment standards is to:

- increase confidence among students, parents, business/industry and post-secondary that students can demonstrate the competencies specified in the modules they have completed
- encourage fairness and equity in how students' efforts are judged
- enable learners to focus effort on key learnings
- support teachers and community partners in planning and implementing CTS.

These tools were validated during the optional stage of CTS implementation.

TABLE OF CONTENTS

ASSESSING STUDENT ACHIEVEMENT

Assessing Student Achievement in CTS G.4
Assessing Student Achievement in Logistics G.6

Assessment Tools Generic to CTS:
  Basic Competencies Reference Guide G.8
  Generic Rating Scale G.10
  Frameworks for Assessment:
    CTSISS: Issue Analysis G.11
    CTSLAB: Lab Investigations G.12
    CTSNEG: Negotiation and Debate G.13
    CTSPRE: Presentations/Reports G.14
    CTSRES: Research Process G.15

Assessment Tools Specific to Modules in the Logistics Strand:
  LOG1010: Logistics Competency Profile and Assessment Checklist G.16
  LOG1020: Warehouse & Distribute 1 Competency Profile and Assessment Checklist G.18
  LOG1030: Traffic & Transport 1 Competency Profile and Assessment Checklist G.21
  LOG1040: Purchasing 1 Competency Profile and Assessment Checklist G.25
  LOG2010: Warehouse & Distribute 2 Competency Profile and Assessment Checklist G.28
  LOG2020: Traffic & Transport 2 Competency Profile and Assessment Checklist G.32
  LOG2030: Purchasing 2 Competency Profile and Assessment Checklist G.38
  LOG2040: Inventory Management 1 Competency Profile and Assessment Checklist G.43
  LOG3010: Warehouse & Distribute 3 Competency Profile and Assessment Checklist G.46
  LOG3020: Traffic & Transport 3 Competency Profile and Assessment Checklist G.50
  LOG3030: Purchasing 3 Competency Profile and Assessment Checklist G.54
  LOG3040: Inventory Management 2 Competency Profile and Assessment Checklist G.57

ASSESSING STUDENT ACHIEVEMENT IN CTS

The CTS assessment standards assess two basic forms of competency:

- What can a student ***do***?
  - **make** a product (e.g., wood bowl, report, garment)
  - **demonstrate** a process
    - strand-related competencies (e.g., keyboarding, hair cutting, sewing techniques, lab procedures)
    - basic competencies (e.g., resource use, safety procedures, teamwork).
- What does a student ***know***?
  - knowledge base needed to demonstrate a competency (link theory and practice).

CTS Defines *Summative* Assessment Standards

The assessment standards and tools defined for the CTS modules, referenced in Sections D, E and F of this Guide, focus on the final (or summative) assessment of student achievement.

Assessment throughout the learning period (formative assessment) will continue to evaluate how students are progressing. Teachers direct and respond to students' efforts to learn—setting and marking tasks and assignments, indicating where improvement is needed, sending out interim reports, congratulating excellence, etc.

Teachers will decide which instructional and assessment strategies to apply during the formative learning period. As formative and summative assessment are closely linked, some teachers may wish to modify the tools included in this section to use during the instructional process. Teachers may also develop their own summative assessment tools as long as the standards are consistent with the minimum expectations outlined by Alberta Education.

Grading and Reporting Student Achievement

When a student can demonstrate ALL of the exit-level competencies defined for the module (module learner expectations), the teacher will designate the module as "successfully completed." The teacher will then use accepted grading practices to determine the percentage grade to be given for the module—a mark not less than 50%.

The time frame a teacher allows a student to develop the exit-level competency is a local decision. NOTE: The Senior High School Handbook specifies that students must have access to 25 hours of instruction for each credit. Students may, however, attain the required competencies in less time and may proceed to other modules.

Teachers are encouraged to consult their colleagues to ensure grading practices are as consistent as possible.

High school teachers may wish to refer to "Directions for Reporting Student Achievement in CTS" for information on how to use the CTS course codes to report the credits that students have earned to Alberta Education. (Copies of this document have been forwarded to superintendents and senior high school principals.)

Components of Assessment Standards in CTS

The following components are included in each module:

- **module learner expectations** (in the shaded left column of the module) define the exit-level competencies students are expected to achieve to complete a module. Each MLE defines and describes critical behaviours that can be measured and observed. The student must meet the standard specified for ALL MLEs within a module to be successful.

- **suggested emphasis** (in the right column of the module) provides a guideline for the relative significance of each MLE and can be used to organize for instruction.

- **criteria and conditions** (in the middle column of the module) set the framework for the assessment of student competency, specifying the minimum standard for performance and including a reference to assessment tools, where appropriate.

  Criteria define the behaviours that a student must demonstrate to meet the designated standard. For example, the criteria could describe the various techniques that must be demonstrated when using a tool, and/or describe the minimum components of a project the student must complete.

  Conditions outline the specifications under which a student's competency can be judged. For example, the conditions could specify whether the assessment should be timed or not, or if the student should be allowed to access to support resources or references.

  Standard may be defined by (1) assessment tools, which are referenced in this section (or sometimes in approved learning resources) and/or (2) "illustrative examples" of student work, if appropriate.

  Assessment Tools included in this section of the Guide tend to be of two types:

  - tools generic to a strand or to the entire CTS program; e.g., a standard 5-point rating scale is used in all strands. Other generic tools include assessing reports and presentations and lab safety checklists. *(Names of these tools include the strand code [e.g., "INF" for Information Processing] and a code for the type of tool [e.g., "TDENT" for Text-Data Entry].)*
  - tools specific to a module; e.g., assessment checklist for assessing a venture plan in Enterprise and Innovation or a checklist for sketching, drawing and modelling in Design Studies. *(Names of these tools include the module code; e.g., "INF1010–1" indicating that it is the first module-specific tool used in Information Processing Module 1010.)*

Development and Validation Processes

The "Criteria and Conditions" and "Suggested Emphasis" columns have been validated with extensive input from teachers, professional associations/contacts and post-secondary institutions. The goal was to prepare well-structured assessment standards and related assessment tools that:

- establish an appropriate level of challenge and rigour
- relate directly to the type of learning described in the curriculum standard
- are easy to understand
- are efficient to implement
- can provide a consistent measure of what was expected to be measured.

As students and teachers work with the assessment standards and tools, it is expected that levels of performance will increase as more and more students are able to achieve the minimum standard. Therefore, the assessment standards and related tools will continue to be monitored, and revised as necessary to ensure appropriate levels of rigour and challenge, and successful transitions for students as they leave high school and enter the workplace or related post secondary programs.

ASSESSING STUDENT ACHIEVEMENT IN LOGISTICS

The Logistics curriculum is based on the premise that recognizable outcomes may be compared to stated standards. In Logistics, the standards identify students' growth in knowledge, skills and attitudes. The curriculum defines outcomes through the module learner expectations (MLEs) and specific learner expectations (SLEs). It also suggests criteria and conditions for assessment and the emphasis to be placed on each expectation. These elements combine to provide an overall framework for instruction and assessment.

Assessment Strategies and Tools

A variety of tools have been provided for your reference and use. In the development of the assessment materials there has been an attempt to keep it as simple as possible while also providing guidance and assistance to teachers. The tools are intended to help you and others assess students' work as accurately and consistently as possible by stating standards of performance for elements felt to be important within the curriculum as a whole or in specified modules. They also provide standards for basic competencies students should be able to demonstrate while engaging in learning.

The tools that have been developed are intended to be used as summative assessment tools. Depending on the way instruction is organized, they may be used when the student has indicated he or she is ready for the final assessment or by the entire class at the end of the learning period.

It is anticipated that a significant amount of instruction in Logistics will occur off-campus. The teacher is therefore encouraged to discuss assessment strategies and available tools with supervising employers prior to placing students off-campus.

Tools Generic to CTS

The generic rating scale has been used to develop several of the tools in CTS. A generic framework for assessing the processes CTS students apply in completing a task or project is included in this section. It is based on the notion that students will follow a process as they work through their projects and that this process has a number of sequential steps. The framework shows the increasing expectations from the introductory, to the intermediate, to the advanced level.

Some assessment tools, e.g., Presentations/Reports, are generic to CTS and have been included in Section G. In assessing MLEs at the introductory level, PRE100 would be used. Since the content portion of this tool must relate specifically to an MLE in a module, the tool has been adapted, labelled and included under Assessment Tools Specific to the Logistics strand, LOG, and to the module, e.g., LOG101 (module number), and the tool number (within the module), e.g., LOG1010–1.

The Basic Competencies Reference Guide can be used directly as a checklist or as a guide to assess these competencies through other teacher-developed tools.

Tools Generic to Logistics

Certain concepts, such as scenario assessments, community resources, personal action plans and career explorations, are an integral part of the Logistics strand. Generic assessment tools are included to assess these concepts as consistently as possible with the expected standard increasing as the student progresses from introductory to advanced level modules. These tools are identified throughout the document by also using the LOG (Logistics).

Tools Specific to Logistics Modules

The tools that have been developed to assess specific MLEs in a module are labelled with the module number and the tool number (e.g., LOG1010–1). They are referred to under the criteria and conditions column in sections D, E and F of this Guide.

In some instances where the tool suggested has been a test, a sample test or sample questions have been included. It is recommended that the instructor prepare appropriate test banks. Numerous assessment tools have been developed for module-specific presentation/reports, research and analysis.

Assessment materials currently being used may continue to be used if they assess the criteria and conditions for an MLE.

Suggested Emphasis for Assessment

The "Suggested Emphasis" column provides a guideline for the relative significance of each MLE to assist in organizing for instruction. The basic competencies are expected to be integrated throughout and therefore the tools have been designed to assess the relevant basic competencies and the task, skill, process and/or theory. The exception to this would be when a test bank is being used. In this case it is recommended that basic competencies be assessed separately.

BASIC COMPETENCIES REFERENCE GUIDE

The chart below outlines basic competencies that students endeavour to develop and enhance in each of the CTS strands and modules. Students' basic competencies should be assessed through observations involving the student, teacher(s), peers and others as they complete the requirements for each module. In general, there is a progression of task complexity and student initiative as outlined in the Developmental Framework★. **As students progress through Stages 1, 2, 3 and 4 of this reference guide, they build on the competencies gained in earlier stages**. Students leaving high school should set themselves a goal of being able to demonstrate Stage 3 performance.

Suggested strategies for classroom use include:

- having students rate themselves and each other
- using in reflective conversation between teacher and student
- highlighting areas of strength
- tracking growth in various CTS strands
- highlighting areas upon which to focus
- maintaining a student portfolio.

Stage 1— *The student:*	**Stage 2**— *The student:*	**Stage 3**— *The student:*	**Stage 4**— *The student:*.
Managing Learning			
☐ comes to class prepared for learning	☐ →	☐ →	☐ →
☐ follows basic instructions, as directed	☐ follows instructions, with limited direction	☐ follows detailed instructions on an independent basis	☐ →
	☐ sets goals and establishes steps to achieve them, with direction	☐ sets clear goals and establishes steps to achieve them	☐ demonstrates self-direction in learning, goal setting and goal achievement
☐ acquires specialized knowledge, skills and attitudes	☐ applies specialized knowledge, skills and attitudes in practical situations	☐ transfers and applies specialized knowledge, skills and attitudes in a variety of situations	☐ transfers and applies learning in new situations; demonstrates commitment to lifelong learning
☐ identifies criteria for evaluating choices and making decisions	☐ identifies and applies a range of effective strategies for solving problems and making decisions	☐ uses a range of critical thinking skills to evaluate situations, solve problems and make decisions	☐ thinks critically and acts logically to evaluate situations, solve problems and make decisions
☐ uses a variety of learning strategies	☐ explores and uses a variety of learning strategies, with limited direction	☐ selects and uses effective learning strategies	☐ →
		☐ cooperates with others in the effective use of learning strategies	☐ provides leadership in the effective use of learning strategies
Managing Resources			
☐ adheres to established timelines; uses time/schedules/planners effectively	☐ creates and adheres to timelines, with limited direction; uses time/schedules/planners effectively	☐ creates and adheres to detailed timelines on an independent basis; prioritizes task; uses time/schedules/planners effectively	☐ creates and adheres to detailed timelines; uses time/schedules/planners effectively; prioritizes tasks on a consistent basis
☐ uses information (material and human resources), as directed	☐ accesses and uses a range of relevant information (material and human resources), with limited direction	☐ accesses a range of information (material and human resources), and recognizes when additional resources are required	☐ uses a wide range of information (material and human resources) in order to support and enhance the basic requirement
☐ uses technology (facilities, equipment, supplies), as directed, to perform a task or provide a service	☐ uses technology (facilities, equipment, supplies), as appropriate, to perform a task or provide a service, with minimal assistance and supervision	☐ selects and uses appropriate technology (facilities, equipment, supplies) to perform a task or provide a service on an independent basis	☐ recognizes the monetary and intrinsic value of managing technology (facilities, equipment, supplies)
☐ maintains, stores and/or disposes of equipment and materials, as directed	☐ maintains, stores and/or disposes of equipment and materials, with limited assistance	☐ maintains, stores and/or disposes of equipment and materials on an independent basis	☐ demonstrates effective techniques for managing facilities, equipment and supplies
Problem Solving and Innovation			
☐ participates in problem solving as a process ☐ learns a range of problem-solving skills and approaches	☐ identifies the problem and selects an appropriate problem-solving approach, responding appropriately to specified goals and constraints	☐ thinks critically and acts logically in the context of problem solving	☐ identifies and resolves problems efficiently and effectively
☐ practices problem-solving skills by responding appropriately to a clearly defined problem, specified goals and constraints, by: – generating alternatives – evaluating alternatives – selecting appropriate alternative(s) – taking action	☐ applies problem-solving skills to a directed or a self-directed activity, by: – generating alternatives – evaluating alternatives – selecting appropriate alternative(s) – taking action	☐ transfers problem-solving skills to real-life situations, by generating new possibilities ☐ prepares implementation plans ☐ recognizes risks	☐ identifies and suggests new ideas to get the job done creatively, by: – combining ideas or information in new ways – making connections among seemingly unrelated ideas – seeking out opportunities in an active manner

BEST COPY AVAILABLE

Stage 1— *The student:*	**Stage 2**— *The student:*	**Stage 3**— *The student:*	**Stage 4**— *The student:*
Communicating Effectively			
☐ uses communication skills; e.g., reading, writing, illustrating, speaking	☐ communicates thoughts, feelings and ideas to justify or challenge a position, using written, oral and/or visual means	☐ prepares and effectively presents accurate, concise, written, visual and/or oral reports providing reasoned arguments	☐ negotiates effectively, by working toward an agreement that may involve exchanging specific resources or resolving divergent interests
☐ uses language in appropriate context	☐ uses technical language appropriately	☐ encourages, persuades, convinces or otherwise motivates individuals	☐ negotiates and works toward a consensus
☐ listens to understand and learn	☐ listens and responds to understand and learn	☐ listens and responds to understand, learn and teach	☐ listens and responds to understand, learn, teach and evaluate
☐ demonstrates positive interpersonal skills in selected contexts	☐ demonstrates positive interpersonal skills in many contexts	☐ demonstrates positive interpersonal skills in most contexts	☐ promotes positive interpersonal skills among others
Working with Others			
☐ fulfills responsibility in a group project	☐ ———►———►	☐ seeks a team approach, as appropriate, based on group needs and benefits; e.g., idea potential, variety of strengths, sharing of workload	☐ leads, where appropriate, mobilizing the group for high performance
☐ works collaboratively in structured situations with peer members	☐ cooperates to achieve group results	☐ works in a team or group: – encourages and supports team members – helps others in a positive manner – provides leadership/followership as required – negotiates and works toward consensus as required	☐ understands and works within the context of the group
☐ acknowledges the opinions and contributions of others in the group	☐ maintains a balance between speaking, listening and responding in group discussions ☐ respects the feelings and views of others		☐ prepares, validates and implements plans that reveal new possibilities
Demonstrating Responsibility			
Attendance			
☐ demonstrates responsibility in attendance, punctuality and task completion	☐ ———►———►	☐ ———►———►	☐ ———►———►
Safety			
☐ follows personal and environmental health and safety procedures	☐ recognizes and follows personal and environmental health and safety procedures	☐ establishes and follows personal and environmental health and safety procedures	☐ transfers and applies personal and environmental health and safety procedures to a variety of environments and situations
☐ identifies immediate hazards and their impact on self, others and the environment	☐ identifies immediate and potential hazards and their impact on self, others and the environment	☐ ———►———►	☐ ———►———►
☐ follows appropriate/emergency response procedures	☐ ———►———►	☐ ———►———►	☐ ———►———►
			☐ demonstrates accountability for actions taken to address immediate and potential hazards
Ethics			
☐ makes personal judgements about whether or not certain behaviours/actions are right or wrong	☐ assesses how personal judgements affect other peer members and/or family; e.g., home and school	☐ assesses the implications of personal/group actions within the broader community; e.g., workplace	☐ analyzes the implications of personal/group actions within the global context
			☐ states and defends a personal code of ethics as required

***Developmental Framework**			
• *Simple task* • *Structured environment* • *Directed learning*	• *Task with limited variables* • *Less structured environment* • *Limited direction*	• *Task with multiple variables* • *Flexible environment* • *Self-directed learning, seeking assistance as required*	• *Complex task* • *Open environment* • *Self-directed/self-motivated*

BEST COPY AVAILABLE

GENERIC RATING SCALE

SCALE	**RUBRIC STATEMENT** **(included in assessment tool/statements in *italics* are optional)** ***The student:***	**IS TASK/ PROJECT COMPLETED?**	**PROBLEM SOLVING:** **STUDENT INITIATIVE VS TEACHER DIRECTION/ SUPPORT**	**USE OF TOOLS, MATERIALS, PROCESSES**	***STANDARDS OF QUALITY/ PRODUCTIVITY***	***TEAMWORK*** ***LEADERSHIP***	***SERVICE*** ***CLIENT/*** ***CUSTOMER***
4	exceeds defined outcomes. Plans and solves problems effectively and creatively in a self-directed manner. Tools, materials and/or processes are selected and used efficiently, effectively and with confidence. *Quality, particularly details and finishes, and productivity are consistent and exceed standards. Leads others to contribute team goals. Analyzes and provides effective client/customer services beyond expectations.*	Exceeds defined outcomes.	Plans and solves problems effectively and creatively in a self-directed manner.	Tools, materials and/or processes are selected and used efficiently, effectively and with confidence.	*Quality, particularly details and finishes, and productivity are consistent and exceed standards.*	*Leads others to contribute team goals.*	*Analyzes and provides effective client/customer services beyond expectations.*
3	meets defined outcomes. Plans and solves problems in a self-directed manner. Tools, materials and/or processes are selected and used efficiently and effectively. *Quality and productivity are consistent. Works cooperatively and contributes ideas and suggestions that enhance team effort. Analyzes and provides effective client/customer services.*	Meets defined outcomes.	Plans and solves problems in a self-directed manner.	Tools, materials and/or processes are selected and used efficiently and effectively.	*Quality and productivity are consistent.*	*Works cooperatively and contributes ideas and suggestions that enhance team effort.*	*Analyzes and provides effective client/customer services.*
2	meets defined outcomes. Plans and solves problems with limited assistance. Tools, materials and/or processes are selected and used appropriately. *Quality and productivity are reasonably consistent. Works cooperatively to achieve team goals. Identifies and provides customer/client services.*	Meets defined outcomes.	Plans and solves problems with limited assistance.	Tools, materials and/or processes are selected and used appropriately.	*Quality and productivity are reasonably consistent.*	*Works cooperatively to achieve team goals.*	*Identifies and provides customer/client services.*
1	meets defined outcomes. Follows a guided plan of action. A limited range of tools, materials and/or processes are used appropriately. *Quality and productivity are reasonably consistent. Works cooperatively. Provides a limited range of customer/client services.*	Meets defined outcomes.	Follows a guided plan of action.	A limited range of tools, materials and/or processes are used appropriately.	*Quality and productivity are reasonably consistent.*	*Works cooperatively.*	*Provides a limited range of customer/client services.*
0	has not completed defined outcomes. Tools, materials and/or processes are used inappropriately.	Has not completed defined outcomes.		Tools, materials and/or processes are used inappropriately.			

ASSESSMENT FRAMEWORK: ISSUE ANALYSIS

CTSISS

INTRODUCTORY	INTERMEDIATE	ADVANCED
The student:	*The student:*	*The student:*
Preparation and Planning	**Preparation and Planning**	**Preparation and Planning**
• accurately describes an issue on which people disagree	• accurately describes an issue on which people disagree, explaining areas of disagreement	• accurately describes an issue on which people disagree, explaining specific causes of disagreement
• poses an important question regarding the issue	• poses one or more thoughtful questions regarding the issue	• poses thoughtful questions regarding the issue
• accesses basic in-school/community information sources regarding the issue	• accesses a range of relevant in-school/community resources	• accesses a range of relevant information sources and recognize when additional information is required
• uses one or more information-gathering techniques	• uses a range of information-gathering techniques	• demonstrates resourcefulness in collecting data
Analyzing Perspectives	**Analyzing Perspectives**	**Analyzing Perspectives**
• clarifies different points of view regarding the issue; *e.g., social, economic, environmental*	• categorizes different points of view regarding the issue; *e.g., cultural, ethical, economic, environmental, health-related*	• categorizes different points of view regarding the issue; *e.g., cultural, ethical, economic, environmental, health-related, scientific, political*
• states a position on the issue and logical reasons for adopting that position	• states a position on the issue and logical reasons for adopting that position	• states a position on the issue and insightful reasons for adopting that position
• states an opposing position on the issue and logical reasons for adopting that position	• state two or more opposing positions on the issue and logical reasons for adopting each position	• states three or more opposing positions on the issue and thoughtful reasons for adopting each position
• identifies sources of conflict among different positions	• describes interrelationships among different perspectives/points of view	• analyzes interrelationships among different perspectives/points of view
• distinguishes between fact and fiction/opinion/theory	• determines accuracy/currency/reliability of information and ideas	• recognizes underlying bias/assumptions/values in information and ideas
Collaboration and Teamwork	**Collaboration and Teamwork**	**Collaboration and Teamwork**
• shares work appropriately among group members	• shares work appropriately among group members	• shares work appropriately among group members
• respect the views of others	• respects and considers the views of others	• respects and considers the views of others
	• negotiates solutions to problems	• negotiates with sensitivity solutions to problems
Evaluating Choices/Making Decisions	**Evaluating Choices/Making Decisions**	**Evaluating Choices/Making Decisions**
• identifies useful alternatives regarding the issue	• identifies important and appropriate alternatives regarding the issue	• describes in detail important and appropriate alternatives regarding the issue
• establishes criteria for assessing each alternative; *e.g., social, economic, environmental*	• establishes knowledge- and value-based criteria for assessing each alternative; *e.g., social, economic, environmental*	• establishes knowledge- and value-based criteria for assessing each alternative; *e.g., social, economic, environmental*
• selects an appropriate alternative based on established criteria	• selects an appropriate alternative by showing differences among choices	• selects an appropriate and useful alternative by showing differences among choices
• reflects on strengths/weaknesses of decisions by considering consequences	• assesses strengths/weaknesses of decisions by considering consequences	• assesses strengths/weaknesses of decisions by considering consequences and implications
• communicates information in a logical sequence to justify choices/decisions made	• communicates ideas in a logical sequence with supporting detail to justify choices/decisions made	• communicate thoughts/feelings/ideas clearly to justify choices/decisions made

BEST COPY AVAILABLE

ASSESSMENT FRAMEWORK: LAB INVESTIGATIONS

CTSLAB

INTRODUCTORY	INTERMEDIATE	ADVANCED
The student:	*The student:*	*The student:*
Management • prepares self for task • organizes and works in an orderly manner • carries out instructions accurately • uses time effectively	**Management** • prepares self for task • organizes and works in an orderly manner • interprets and carries out instructions accurately • plans and uses time effectively • adheres to routine procedures	**Management** • prepares self for task • organizes and works in an orderly manner • interprets and carries out instructions accurately • plans and uses time effectively in a logical sequence • displays leadership in adhering to routine procedures • attempts to solve problems prior to requesting help
Teamwork • cooperates with group members • shares work appropriately among group members	**Teamwork** • cooperates with group members • shares work appropriately among group members • negotiates solutions to problems	**Teamwork** • cooperates with group members • shares work appropriately among group members • negotiates with sensitivity solutions to problems • displays effective communication skills
Use of Equipment and Materials • selects and uses appropriate equipment/materials • follows safe procedures/techniques • weighs and measures accurately • returns clean equipment/materials to storage areas	**Use of Equipment and Materials** • selects and uses appropriate equipment/materials • models safe procedures/techniques • weighs and measures accurately • practises proper sanitation procedures • minimizes waste of materials • advises of potential hazards and necessary repairs	**Use of Equipment and Materials** • selects and uses equipment/materials independently • demonstrates concern for safe procedures/techniques • weighs and measures accurately and efficiently • practises proper sanitation procedures • minimizes waste of materials • anticipates potential hazards and emergency response
Investigative Techniques • gathers and applies information from at least one source • makes predictions that can be tested • sets up and conducts experiments to test a prediction • • distinguishes between manipulated/responding variables • obtains results that can be used to determine if some aspect of the prediction is accurate • summarizes important experimental outcomes	**Investigative Techniques** • gathers and applies information from a variety of sources • makes predictions that can be tested • plans, sets up and conducts experiments to test a prediction • identifies and explains manipulated/responding variables • obtains accurate results that confirm/reject the prediction • summarizes and applies experimental outcomes	**Investigative Techniques** • uses relevant information to explain observations • makes predictions that can be tested • plans, sets up and conducts experiments to test a prediction • analyzes relationships among manipulated/responding variables • obtains accurate results that confirm/reject prediction and answer related questions • summarizes, applies and evaluates experimental outcomes

ASSESSMENT FRAMEWORK: NEGOTIATION AND DEBATE

CTSNEG

INTRODUCTORY	INTERMEDIATE	ADVANCED
The student:	*The student:*	*The student:*
Preparation and Planning	**Preparation and Planning**	**Preparation and Planning**
• accurately describes an issue on which people disagree	• accurately describes an issue on which people disagree, explaining areas of disagreement	• accurately describes an issue on which people disagree, explaining specific causes of disagreement
• poses an important question regarding the issue	• poses one or more thoughtful questions regarding the issue	• poses thoughtful questions regarding the issue
• accesses basic in-school/community information sources regarding the issue	• accesses a range of relevant in-school/community resources	• accesses a range of relevant information sources and recognizes when additional information is required
• uses one or more information-gathering techniques	• uses a range of information-gathering techniques	• demonstrates resourcefulness in collecting data
Analyzing Perspectives	**Analyzing Perspectives**	**Analyzing Perspectives**
• states a position on the issue and logical reasons for adopting that position	• states a position on the issue and logical reasons for adopting that position	• states a position on the issue and insightful reasons for adopting that position
• explains why the issue is important by presenting examples of possible consequences	• explains why the issue is important by presenting examples of possible consequences	• explains why the issue is important by presenting examples of possible consequences and implications
• clarifies different points of view regarding the issue; *e.g., social, economic, environmental*	• categorizes different points of view regarding the issue; *e.g., cultural, ethical, economic, environmental, health-related*	• categorizes different points of view regarding the issue; *e.g., cultural, ethical, economic, environmental, health-related, scientific, political*
• distinguishes between fact and fiction/opinion/theory	• determines accuracy/currency/reliability of information and ideas	• recognizes underlying bias/assumptions/values in information and ideas
Collaboration and Teamwork	**Collaboration and Teamwork**	**Collaboration and Teamwork**
• works with a range of peer members	• works with a range of peer members	• works with a wide range of peer members
• shares information/opinions/suggestions through group discussion	• shares information/opinions/suggestions, maintaining a balance between speaking and listening	• shares information/opinions/suggestions, maintaining a balance between speaking and listening
• listens to and respects the views of others	• listens to and respects the views of others, requesting clarification as necessary from other group members	• listens to and respects the views of others, requesting clarification as necessary from other group members
Negotiating and Debating	**Negotiating and Debating**	**Negotiating and Debating**
• presents a convincing argument in logical sequence supporting a position adopted on the issue	• presents a convincing argument in logical sequence supporting a position adopted, conveying points in order of importance	• presents a convincing argument in logical sequence supporting a position adopted, conveying points in order of importance and backing each with sound evidence
• provides a relevant response to opposing arguments	• provides a relevant and convincing response to opposing arguments	• provides a relevant and convincing rebuttal to opposing arguments
• speak clearly so the argument can be understood	• speaks clearly without hesitation so the argument can be understood	• speaks clearly without hesitation so the argument can be understood by all listeners
• establishes a shared understanding of key alternatives and consequences relevant to the issue	• negotiates a shared agreement on preferred alternatives relevant to the issue	• negotiates a shared agreement on preferred alternatives by resolving divergent points of view

INTRODUCTORY	INTERMEDIATE	ADVANCED
The student:	*The student:*	*The student:*
Preparation and Planning	**Preparation and Planning**	**Preparation and Planning**
• sets goals and follows instructions accurately	• sets goals and describes steps to achieve them	• sets goals and describes steps to achieve them
• responds to directed questions and follows necessary steps to find answers	• uses personal initiative to formulate questions and find answers	• uses personal initiative to formulate questions and find answers
• accesses basic in-school/community information sources	• accesses a range of relevant in-school/community resources	• accesses a range of relevant information sources and recognizes when additional information is required
• interprets and organizes information into a logical sequence	• interprets, organizes and combines information into a logical sequence	• interprets, organizes and combines information in creative and thoughtful ways
• records information accurately, using correct technical terms	• records information accurately with appropriate supporting detail and using correct technical terms	• records information accurately, using appropriate technical terms and supporting detail
• uses time effectively	• plans and uses time effectively	• plans and uses time effectively, prioritizing tasks on a consistent basis
	• gathers and responds to feedback regarding approach to task and project status	• assesses and refines approach to task and project status based on feedback and reflection
Presentation	**Presentation**	**Presentation**
• demonstrates effective use of at least one medium of communication: *e.g., Written: spelling, punctuation, grammar, basic format* *Oral: voice projection, body language* *Audio-Visual: techniques, tools*	• demonstrates effective use of at least two communication media: *e.g., Written: spelling, punctuation, grammar, format (formal/informal)* *Oral: voice projection, body language, appearance* *Audio-Visual: techniques, tools, clarity*	• demonstrates effective use of a variety of communication media: *e.g., Written: spelling, punctuation, grammar, format (formal/informal, technical/literary)* *Oral: voice projection, body language, appearance, enthusiasm, evidence of prior practice* *Audio-Visual: techniques, tools, clarity, speed and pacing*
• uses correct grammatical convention and technical terms through proofreading/editing	• maintains acceptable grammatical and technical standards through proofreading and editing	• maintains acceptable grammatical and technical standards through proofreading and editing
• provides an introduction that describes the purpose of the project	• provides an introduction that describes the purpose and scope of the project	• provides an introduction that describes the purpose and scope of the project
• communicates information in a logical sequence	• communicates ideas into a logical sequence with sufficient supporting detail	• communicates thoughts/feelings/ideas clearly to justify or challenge a position
• states a conclusion based on a summary of facts	• states a conclusion by synthesizing the information gathered	• states a conclusion by analyzing and synthesizing the information gathered
• provides a reference list of three or more basic information sources	• provides a reference list that includes five or more relevant information sources	• gives evidence of adequate research through a reference list including seven or more relevant information sources

ASSESSMENT FRAMEWORK: RESEARCH PROCESS

INTRODUCTORY	INTERMEDIATE	ADVANCED
The student:	*The student:*	*The student:*
Preparation and Planning • sets goals and follows instructions accurately • adheres to established timelines • responds to directed questions and follows necessary steps to find answers • uses time effectively	**Preparation and Planning** • sets goals and establishes steps to achieve them • creates and adheres to useful timelines • uses personal initiative to formulate questions and find answers • plans and uses time effectively	**Preparation and Planning** • sets clear goals and establishes steps to achieve them • creates and adheres to detailed timelines • uses personal initiative to formulate questions and find answers • plans and uses time effectively, prioritizing tasks on a consistent basis
Information Gathering and Processing • accesses basic in-school/community information sources • uses one or more information-gathering techniques • interprets and organizes information in a logical sequence • records information accurately, using correct technical terms • distinguishes between fact and fiction/opinion/theory • responds to feedback when current approach is not working	**Information Gathering and Processing** • accesses a range of relevant in-school/community resources • uses a range of information-gathering techniques • interprets, organizes and combines information into a logical sequence • records information accurately with appropriate supporting detail and using correct technical terms • determines accuracy/currency/reliability of information sources • gathers and responds to feedback regarding approach to the task	**Information Gathering and Processing** • accesses a range of relevant information sources and recognizes when additional information is required • demonstrates resourcefulness in collecting data • interprets, organizes and combines information in creative and thoughtful ways • records information accurately with appropriate supporting detail and using correct technical terms • recognizes underlying bias/assumptions/values in information sources • assesses and refines approach to the task and project status based on feedback and reflection
Collaboration and Teamwork • cooperates with group members • shares work appropriately among group members	**Collaboration and Teamwork** • cooperates with group members • shares work appropriately among group members • negotiates solutions to problems	**Collaboration and Teamwork** • cooperates with group members • shares work appropriately among group members • negotiates with sensitivity solutions to problems • displays effective communication and leadership skills
Information Sharing • demonstrates effective use of one or more communication media; *e.g., written, oral, audio-visual* • communicates information in a logical sequence • uses correct grammatical convention and technical terms • cites three or more basic information sources	**Information Sharing** • demonstrates effective use of two or more communication media; *e.g., written, oral, audio-visual* • communicates ideas in a logical sequence with sufficient supporting detail • maintains acceptable grammatical and technical standards • cites five or more relevant information sources	**Information Sharing** • demonstrates effective use of a variety of communication media; *e.g., written, oral, audio-visual* • communicates thoughts/feelings/ideas clearly to justify or challenge a position • maintains acceptable grammatical and technical standards • gives evidence of adequate information gathering by citing seven or more relevant information sources

LOG1010: LOGISTICS

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is 1 .

COMPETENCIES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
Please add any additional **employability skills** and comments here. • • • •						

LOGISTICS CONCEPTS AND TERMS	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates knowledge about "logistics"						
• identifies the five main logistics subsectors and explains the relationship among the subsectors						
• explains why logistics is important in everyday living						
• demonstrates knowledge about "producers," "distributors," "consumers"						
• traces, for a selected item, how logistics affects the production, distribution, and eventual availability and use of the item by the consumer						
Please add any additional **logistics concepts and terms** knowledge, skills and comments here. • • • •						

Please refer to the standards and rating scale on page G.10.

USERS AND SUPPLIERS	ASSESSMENT					
The student:	0	1	2	3	4	NA
• explains the difference between "users" and "suppliers" of logistics services						
• gives examples of local, provincial, national and international users and suppliers of logistics services						
• defines the term third-party logistics						
Please add any additional **users and suppliers** knowledge, skills and comments here. • •						

CUSTOMER SERVICE AND SATISFACTION	ASSESSMENT					
The student:	0	1	2	3	4	NA
• defines the terms customer service and satisfaction						
• explains the importance of customer service and satisfaction in logistics						
• demonstrates customer service and identifies customer satisfaction in a logistics operation						
• describes strategies and instruments used to assess levels of customer service and customer satisfaction						
Please add any additional knowledge of **customer service and satisfaction** and comments here. • •						

CAREER OPPORTUNITIES	ASSESSMENT					
The student:	0	1	2	3	4	NA
• describes current and emerging career opportunities in logistics; e.g., warehouse and distribution, purchasing, traffic and transportation, inventory materials management						
• describes abilities, qualifications and credentials that would be of value in a logistics career; e.g., employability skills, physical skills						
Please add any additional **career** knowledge, skills and comments here. • •						

Student's Name ______________________________

Supervisor's Signature ______________________________ Date ________________________

Teacher's Signature ______________________________ Date ________________________

Please refer to the standards and rating scale on page G.10.

LOG1020: WAREHOUSE & DISTRIBUTE 1

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is $\boxed{1}$.

COMPETENCIES	ASSESSMENT					
The student:	0	1	2	3	4	NA
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						
Please add any additional **employability skills** and comments here. • • •						

PROCESSES, ROLES, PURPOSES, SIGNIFICANCE	ASSESSMENT					
The student:	0	1	2	3	4	NA
• demonstrates an understanding of basic warehousing and distribution processes including:						
– receiving						
– storage						
– picking						
– packing						
– loading						
– shipping						
• distinguishes between the purposes of warehousing and the purposes of distribution; e.g., storage, time sensitive, proximity to manufacturer versus customer						
Please add any additional **processes, roles and purposes** knowledge, skills and comments here. • • •						

Please refer to the standards and rating scale on page G.10.

SAFETY: REQUIREMENTS, SIGNS & SYMBOLS, HAZARD REPORTS	ASSESSMENT					
The student:	0	1	2	3	4	NA
• describes general and specific safety requirements						
• demonstrates safe work practices including handling of materials, WHMIS, signage, equipment and protective clothing						
• reports safety and loss hazards; e.g., storage and aisles are kept clear, items do not protrude, falling objects and tripping hazards are reported						
• identifies potential hazards within a warehousing and distribution workplace						
Please add any additional **safety** knowledge, skills and comments here. • • • •						
DOCUMENTATION	**ASSESSMENT**					
The student:	0	1	2	3	4	NA
• accurately completes at least three pieces of documentation such as a packing slip, pick ticket, bill of lading, shipping manifest, advanced shipping notice, receiving report, distribution sheet, safety checklist or inventory count sheet						
• demonstrates the ability to correctly use a stock item locator system						
• demonstrates accuracy and attention to detail when reading and interpreting documents						
• provides examples of how technology can help speed and improve the processes involved in warehousing and distribution						
Please add any additional **documentation** knowledge, skills and comments here. • • • •						
CAREER OPPORTUNITIES	**ASSESSMENT**					
The student:	0	1	2	3	4	NA
• describes the current and emerging career opportunities specific to warehousing and distribution						

Please refer to the standards and rating scale on page G.10.

CAREER OPPORTUNITIES (continued)	**ASSESSMENT**					
• describes the requirements for a career in warehousing and distribution at the:						
– entry level						
– skilled level						
– supervisory level						
– management level						
– executive level						
Please add any additional **career** knowledge, skills and comments here. • • • •						

Student's Name ________________________

Supervisor's Signature ________________________ Date ____________________

Teacher's Signature ________________________ Date ____________________

Please refer to the standards and rating scale on page G.10.

LOG1030: TRAFFIC & TRANSPORT 1

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is 1 .

COMPETENCIES	ASSESSMENT					
The student:	0	1	2	3	4	NA
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						
Please add any additional **employability skills** and comments here. • • • •						

MODES OF TRANSPORTATION	ASSESSMENT					
The student:	0	1	2	3	4	NA
• explains the advantages and disadvantages of different vehicles and vessels used in the following modes of transportation:						
– air; e.g., commercial, charter						
– rail						
– surface; e.g., commercial, contract, hotshot						
– sea						
– pipeline						
• distinguishes between "single mode" and "intermodal" transportation systems						
Please add any additional **modes of transportation** knowledge, skills and comments here. • • • •						

Please refer to the standards and rating scale on page G.10.

PRODUCT-SPECIFIC REQUIREMENTS	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes product-specific transportation equipment available; e.g., containers						
• for a given product, describes the:						
– most appropriate mode of transportation						
– product specific requirements; e.g., refrigerators, courier, air rides for delicate equipment						
– other requirements; e.g., time, temperature, packing, shipment size, value of shipment						

Please add any additional **product-specific requirements** knowledge, skills and comments here.

•
•
•
•

OUTGOING SHIPMENTS	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• assists in preparing shipments for transport, including:						
– recommending appropriate shipping container						
– checking that the product is cushioned, strapped, weatherproofed, labelled and marked						
– inspecting external preservation and packing						
• assists in processing outgoing shipments including:						
– consolidating consignments and/or shipments						
– weighing the shipment accurately						
– preparing shipping documentation						
– selecting an appropriate carrier						
– loading the shipment						

Please add any additional **outgoing shipments** knowledge, skills and comments here.

•
•
•
•

Please refer to the standards and rating scale on page G.10.

INCOMING SHIPMENTS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• assists in processing incoming shipments including:						
– verifying shipment against documentation						
– inspecting incoming shipments for damage						
– separating into individual consignments						
– arranging for forwarding delivery						
– initiating tracing action on delayed shipments						
– initiating claim action						
– unloading the shipment						

Please add any additional **incoming shipments** knowledge, skills and comments here.

•
•
•
•

ELECTRONIC DATA INTERCHANGE (EDI)	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• defines and describe the use of EDI in logistics						
• uses technology including EDI hardware and software where appropriate						

Please add any additional **Electronic Data Interchange** knowledge, skills and comments here.

•
•
•
•

DANGEROUS GOODS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes the range of goods identified as "dangerous goods"						
• demonstrates appropriate handling of dangerous goods						

Please add any additional **dangerous goods** knowledge, skills and comments here.

•
•
•
•

Please refer to the standards and rating scale on page G.10.

SAFETY	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates basic safety procedures and practices appropriate to each mode						
• uses safety-related clothing and other aids appropriate to each mode						
Please add any additional **safety** knowledge, skills and comments here. • • • •						

CAREER OPPORTUNITIES	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes current and emerging career opportunities in traffic and transportation						
• identifies and describes requirements for entry into a traffic and transportation career at:						
– skilled level						
– supervisory level						
– management level						
– executive level						
Please add any additional **career** knowledge, skills and comments here. • • • •						

Student's Name ____________________

Supervisor's Signature ____________________ Date ____________________

Teacher's Signature ____________________ Date ____________________

Please refer to the standards and rating scale on page G.10.

LOG1040: PURCHASING 1

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is $\boxed{1}$.

COMPETENCIES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						

Please add any additional **employability skills** and comments here.

-
-
-

DOCUMENTATION	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• assists in the preparation of documents; e.g., requests for quotations, purchase requisitions, purchase orders						
• demonstrates knowledge about:						
– purchasing						
– terms and conditions						
– control/blanket agreement						
– hazard codes						
– customs						
– invoice/packing slips						
– policy/procedures						
– price lists						
– stock numbers						
– tendering						

Please refer to the standards and rating scale on page G.10.

DOCUMENTATION (continued)	**ASSESSMENT**
Please add any additional **documentation** knowledge, skills and comments here. • • • •	

PURCHASING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the purchasing cycle						
• distinguishes between:						
– public and private purchasing activities						
– internal and external customers						
• assists in a variety of basic purchasing activities; e.g., planning an order						
Please add any additional **purchasing** skills, knowledge and comments here. • • • •						

EXPEDITING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• assists in the expediting process including:						
– progress tracking of orders						
– consulting with suppliers						
– anticipating problems						
– contingency planning						
– timely delivery of goods						
• assists in performing basic expediting functions						
Please add any additional **expediting** knowledge, skills and comments here. • • • •						

Please refer to the standards and rating scale on page G.10.

AUTHORIZING	ASSESSMENT					
The student:	0	1	2	3	4	NA
• explains the purpose of the authorization process						
• assists in completing the authorization process for the purchase of goods and services						
Please add any additional **authorizing** knowledge, skills and comments here. • • • •						

CAREER OPPORTUNITIES	ASSESSMENT					
The student:	0	1	2	3	4	NA
• describes current and emerging career opportunities specific to purchasing						
• identifies and describes the requirements for entry into a purchasing career at:						
– entry level						
– skilled level						
– supervisory level						
– management level						
Please add any additional **career** knowledge, skills and comments here. • • • •						

Student's Name ______________________

Supervisor's Signature ______________________ Date ______________________

Teacher's Signature ______________________ Date ______________________

Please refer to the standards and rating scale on page G.10.

LOG2010: WAREHOUSE & DISTRIBUTE 2

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is 2 .

COMPETENCIES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						
Please add any additional **employability skills** and comments here. • •						

WAREHOUSING	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• identifies various types of warehouses						
• explains why different types of warehouses are located where they are and the importance of location						
• explains the function of each of the following:						
– shipping area						
– receiving area						
– storage area						
• explains the purpose of the following systems of warehousing:						
– first in/first out (FIFO)						
– last in/first out (LIFO)						
– time-dated systems						
– non-time dated systems						
– bulk materials handling systems						
– general materials handling systems						

Please refer to the standards and rating scale on page G.10.

WAREHOUSING (continued)	**ASSESSMENT**					
• describes the advantages and disadvantages of using the following stock locator systems:						
– random						
– fixed						
– manual						
– electronic						
• demonstrates ability to use appropriate stock locator system						

Please add any additional **warehousing** knowledge, skills and comments here.

-
-

BONDING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains how bonding affects the flow of goods						
• gives at least two examples of goods usually placed in bond						
• explains the principles and practices relating to bonding; e.g.:						
– purpose						
– method						
– requirements						

Please add any additional **bonding** knowledge, skills and comments here.

-
-

SHIPMENT PREPARATION: PACKAGING, PACKING, DOCUMENTATION	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• distinguishes between packaging and packing						
• describes different types of packaging; e.g.:						
– volatile corrosive inhibiting paper (VCI paper)						
– blister packaging						
– security packaging						
– styrofoam						
– popcorn						

Please refer to the standards and rating scale on page G.10.

SHIPMENT PREPARATION: PACKAGING, PACKING, DOCUMENTATION (continued)	**ASSESSMENT**					
• describes packing standards; e.g.:						
– consumer standards						
– industrial standards						
– labelling						
• demonstrates ability to pack items to:						
– minimize damage						
– meet rigours of shipment						
– regulations and standards						
– modal requirements						
– security needs						
• assists in completing shipping documentation; e.g.:						
– manifests						
– packing slips						
– bills of lading						
– MSDS for WHMIS products						

Please add any additional **shipment preparation** knowledge, skills and comments here.

•

•

MATERIALS HANDLING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes the different uses of equipment and aids used to handle various materials; e.g.:						
– forklift						
– pallet jack						
– slipsheets						
– power lifts						
– rollers						
– conveyors						
– pallets						

Please refer to the standards and rating scale on page G.10.

MATERIALS HANDLING (continued)	**ASSESSMENT**					
– strappers						
– pallet wrapper						
– any other piece of equipment or aid						
• demonstrates safety, competency and confidence in operating and handling equipment and aids						
• demonstrates safe product movement and placement procedures						

Please add any additional **materials handling** knowledge, skills and comments here.

•

•

CAREER OPPORTUNITIES	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes the current and emerging career opportunities specific to warehousing and distribution						
• describes the requirements for a career in warehousing and distribution as a:						
– shipper						
– receiver						
– forklift operator						
– warehouse supervisor						
– replenishment team leader						
– storage area supervisor						
– foreman						
– any other warehousing and distribution position						

Please add any additional **career** knowledge, skills and comments here.

•

•

Student's Name ____________________

Supervisor's Signature ____________________ Date ____________________

Teacher's Signature ____________________ Date ____________________

Please refer to the standards and rating scale on page G.10.

LOG2020: TRAFFIC & TRANSPORT 2

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is $\boxed{2}$.

COMPETENCIES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						

Please add any additional **employability skills** and comments here.

-
-
-

TRACKING, ROUTE PLANNING AND SCHEDULING	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the purpose of tracking systems						
• demonstrates basic ability to use:						
– tracking systems						
– two-way communication devices						
• demonstrates ability to use a map to plan a route; e.g.:						
– traditional format						
– computerized format						
• assists in planning a route						
• assists in planning a schedule to meet customer needs and requirements						

Please add any additional **tracking, route planning and scheduling** knowledge, skills and comments here.

-
-
-

Please refer to the standards and rating scale on page G.10.

DOCUMENTATION	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the purpose of and the difference between a shipping manifest and a transportation manifest						
• describes the purpose of a log book						
• assists in maintaining a log book						
• initiates tracing action on delayed shipments						
• initiates claim action on damaged goods						
Please add any additional **documentation** knowledge, skills and comments here. • • •						

CUSTOMS, IMPORT AND EXPORT	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• identifies and explains the purpose of import and export customs documentation						
• assists in the preparation of import and export customs documentation; e.g.:						
– initiating the clearance of incoming shipments						
– maintaining a register						
• assists in maintaining an efficient filing system for all customs documentation						
Please add any additional **customs, import and export** knowledge, skills and comments here. • • •						

LOAD PLANNING	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates the procedure for load planning						
• assists in developing a load plan taking into account:						
– weight restrictions						
– product-specific needs						
• assists in identifying potential carriers with respect to service, reliability and rates						

Please refer to the standards and rating scale on page G.10.

LOAD PLANNING (continued)	**ASSESSMENT**

Please add any additional **load planning** knowledge, skills and comments here.

•
•
•

MEASUREMENT AND CALCULATION	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• measures and calculates available space in various transportation vehicles, vessels; e.g.:						
– cubic capacity						
– displacement						
– density						
• calculates cube for less than truckload (LTL) versus truckload planning						

Please add any additional **measurement and calculation** knowledge, skills and comments here.

•
•
•

OUTGOING SHIPMENTS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates ability to:						
– package goods to meet customer requirements and industry standards						
– pack items to meet shipping standards						
– label goods and shipments appropriately						
– complete outgoing documentation						
• assists in loading shipments including:						
– inspection of vehicles and cargo						
– inspection of carriers' equipment						
• performs marshalling activities and securing of loads:						
– blocking						
– bracing						
– dunnaging						
– restraining						

Please refer to the standards and rating scale on page G.10.

OUTGOING SHIPMENTS (continued)	**ASSESSMENT**

Please add any additional **outgoing shipment** knowledge, skills and comments here.

-
-
-

WEATHER AND CLIMATE CONDITIONS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes how a logistics operation deals with:						
– annually occurring conditions						
– emergency conditions						
• assists, where appropriate, in developing contingency plans						

Please add any additional **weather and climate conditions** knowledge, skills and comments here.

-
-
-

SAFETY STANDARDS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates application of appropriate safety standards including the use of:						
– wheel checks						
– reflector kits						
– fire extinguishers						
– personal protective equipment						

Please add any additional **safety standards** knowledge, skills and comments here.

-
-
-

PREVENTIVE MAINTENANCE STRATEGIES AND PROCEDURES	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the purpose of preventive maintenance (PM)						
• identifies, describes and demonstrates appropriate types of maintenance						
• recognizes defects and initiates corrective procedures						

Please refer to the standards and rating scale on page G.10.

PREVENTIVE MAINTENANCE STRATEGIES AND PROCEDURES (continued)	**ASSESSMENT**
Please add any additional **preventive maintenance strategies and procedures** knowledge, skills and comments here. • • •	

EQUIPMENT HANDLING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates basic ability to handle, operates and/or uses various equipment and aids relating to traffic and transportation						
Please add any additional **equipment handling** knowledge, skills and comments here. • • •						

DANGEROUS GOODS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes special procedures required to transport dangerous goods in each mode and for each vehicle or vessel						
• demonstrates special procedures and safe handling of dangerous goods						
Please add any additional **dangerous goods** knowledge, skills and comments here. • • •						

CAREER OPPORTUNITIES	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes current and emerging career opportunities in traffic and transportation						
• identifies and describes requirements for entry into a traffic and transportation career as a:						
– freight checker						
– swamper						
– brokerage clerk						
– traffic coordinator						
– dispatcher						

Please refer to the standards and rating scale on page G.10.

CAREER OPPORTUNITIES (continued)	**ASSESSMENT**					
– distribution supervisor						
– any other traffic and transportation position (______________)						
Please add any additional **career** knowledge, skills and comments here. • • •						

Student's Name ______________________

Supervisor's Signature ______________________ Date ______________________

Teacher's Signature ______________________ Date ______________________

Please refer to the standards and rating scale on page G.10.

LOG2030: PURCHASING 2

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is 2.

COMPETENCIES	ASSESSMENT					
The student:	0	1	2	3	4	NA
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						

Please add any additional **employability skills** and comments here.

•
•
•
•

LINES OF AUTHORITY	ASSESSMENT					
The student:	0	1	2	3	4	NA
• defines the term locus of control						
• explains how the locus of control affects purchasing decisions						
• describes the lines of authority for the purchasing section of the organization						
• operates efficiently and effectively within the identified lines of authority when assisting with purchasing activities						

Please add any additional **lines of authority** knowledge, skills and comments here.

•
•
•
•

ECONOMY OF SCALE	ASSESSMENT					
The student:	0	1	2	3	4	NA
• defines the term economy of scale						

Please refer to the standards and rating scale on page G.10.

ECONOMY OF SCALE (continued)	**ASSESSMENT**					
• explains how the use of the economy of scale principle adds value to a company						
• lists examples of an economy of scale in one or more purchasing activities						
• assists in a variety of basic purchasing activities						

Please add any additional **economy of scale** knowledge, skills and comments here.

-
-

RISK MANAGEMENT	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates knowledge about risk management including:						
– expense items						
– capital equipment						
– production materials						
• describes the risks associated with purchasing decisions; e.g.:						
– company liability						
– personal liability						
– Workers' Compensation Board (WCB) coverage						
• identifies and charts lines of authority, responsibility and accountability in the risk management process						
• lists basic strategies used to manage risk within a company						
• demonstrates basic risk management strategies to manage and minimizes risk when making purchasing decisions						

Please add any additional **risk management** knowledge, skills and comments here.

-
-

SURFACE AND HIDDEN COSTS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• defines and provides examples of:						
– surface and hidden costs						
– initial and lifetime costs						

Please refer to the standards and rating scale on page G.10.

SURFACE AND HIDDEN COSTS (continued)	**ASSESSMENT**					
• explains how total ownership costs and other costs affect purchasing decisions; e.g.:						
– insurance						
– gas						
– mileage						
– maintenance						
• takes into account surface and hidden costs when assisting with purchasing activities						

Please add any additional **surface and hidden costs** knowledge, skills and comments here.

-
-
-

PURCHASING DECISION MAKING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the concept of "best buy"; e.g.:						
– size						
– quantity						
– quality						
– cost						
• explains the necessity to balance quality, cost and time in making purchasing decisions						
• demonstrates the best buy concept when assisting with purchasing activities						

Please add any additional **purchasing decision making** knowledge, skills and comments here.

-
-
-

TENDERING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• defines the term tendering						
• identifies and describes the tendering process						
• assists in the tendering process and identification of the best buy						

Please refer to the standards and rating scale on page G.10.

TENDERING (continued)	**ASSESSMENT**
Please add any additional **tendering** knowledge, skills and comments here. • • •	

PROCUREMENT	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• defines the term procurement						
• explains the purpose of specification writing in purchasing activities						
• demonstrates basic specification writing skills for procuring non-stocked items						
Please add any additional **procurement** knowledge, skills and comments here. • • •						

BUDGETS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the purpose or function of savings, capital accounts and operational accounts						
• describes the role of individuals responsible for:						
– savings						
– budget centre usage						
– capital accounts						
– operational accounts						
• demonstrates a basic understanding of cost accounting principles						
• explains the effect of inflation upon the budget						
• explains the effect of the budget upon inflation						
• identifies and describes the process by which spending decisions are made						
Please add any additional **budget** knowledge, skills and comments here. • • •						

Please refer to the standards and rating scale on page G.10.

CAREER OPPORTUNITIES	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes current and emerging career opportunities specific to purchasing						
• describes the requirements for entry into a purchasing career as a:						
– purchasing clerk						
– expediting clerk						
– buyer						
– senior buyer						
– any other purchasing position						
Please add any additional **career** knowledge, skills and comments here. • • •						

Student's Name ____________________

Supervisor's Signature ____________________ Date ________________

Teacher's Signature ____________________ Date ________________

Please refer to the standards and rating scale on page G.10.

LOG2040: INVENTORY MANAGEMENT 1

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is $\boxed{2}$.

COMPETENCIES	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						
Please add any additional **employability skills** and comments here. • • •						

INVENTORY MANAGEMENT AND CONTROL	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the meaning and purpose of a paper/audit trail						
• explains why controls are necessary						
• demonstrates the use of electronic or manual systems available to manage and control inventory:						
– picking						
– cycle counts						
– reordering						
• uses correct procedures when records do not match actual counts						
• describes how inventory management and control add value to a company or operation						
Please add any additional **inventory management and control** knowledge, skills and comments here. • • •						

Please refer to the standards and rating scale on page G.10.

INVENTORY CLASSIFICATION SYSTEMS	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes the purpose of:						
– warehouse keeper's record						
– cycle count sheets						
– classification systems such as stock numbering						
• demonstrates basic ability to use a classification system						
Please add any additional **inventory classification systems** knowledge, skills and comments here. • • •						

INVENTORY CONTROL PRINCIPLES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes at least two of the following inventory control principles:						
– ABC Analysis						
– Turnover Ratio						
– Minimum-Maximum Systems						
– Economic Order Quantity (EOQ)						
– Consignment Inventory						
– Just-In-Time (JIT)						
– any other principles						
Please add any additional **inventory control principles** knowledge, skills and comments here. • • •						

QUALITY CONTROL	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes quality control systems and procedures used in inventory management and control systems						
• demonstrates basic quality control procedures; e.g. cycle counts, locator credit						
Please add any additional **quality control** knowledge, skills and comments here. • • •						

Please refer to the standards and rating scale on page G.10.

USING TECHNOLOGY	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• identifies records that are maintained and explains the reason for keeping these records						
• demonstrates basic ability to:						
– access inventory information						
– input inventory information						

Please add any additional **technology** knowledge, skills and comments here.
-
-
-

CAREER OPPORTUNITIES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes current and emerging career opportunities specific to inventory management and control						
• identifies and describes requirements for entry into an inventory management and control career at:						
– entry level						
– skilled level						
– supervisory level						
– management level						

Please add any additional **career** knowledge, skills and comments here.
-
-
-

Student's Name ______________________

Supervisor's Signature ______________________ Date ______________________

Teacher's Signature ______________________ Date ______________________

Please refer to the standards and rating scale on page G.10.

LOG3010: WAREHOUSE & DISTRIBUTE 3

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is 3 .

COMPETENCIES	ASSESSMENT					
The student:	0	1	2	3	4	NA
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						

Please add any additional **employability skills** and comments here.

-
-
-
-
-

STOCK MOVEMENT AND PLACEMENT	ASSESSMENT					
The student:	0	1	2	3	4	NA
• identifies and describes stock movement and placement practices and procedures						
• identifies and corrects errors in paperwork						
• monitors inventory stocks and flow						
• anticipates product movement issues						
• develops contingency plans and implements solutions to product movement issues (where appropriate)						
• demonstrates safe product movement and placement practices						

Please add any additional **stock movement and placement** knowledge, skills and comments here.

-
-
-
-
-

Please refer to the standards and rating scale on page G.10.

PRODUCT TRACKING	ASSESSMENT					
The student:	0	1	2	3	4	NA
• identifies and describes product tracking services						
• identifies and describes various tracking procedures						
• demonstrates ability to use tracking technology; e.g.:						
– bar codes/reader/scanner						
– microfiche						
– CD ROM						
– monitors						
– visual readers						
– locator systems						
• demonstrates basic ability to use a classification system						

Please add any additional **product tracking** knowledge, skills and comments here.

-
-
-

EQUIPMENT OPERATIONS STANDARDS	ASSESSMENT					
The student:	0	1	2	3	4	NA
• identifies and describes warehouse equipment operations standards; e.g.:						
– internal standards (department, company)						
– external standards (governmental, national)						

Please add any additional **equipment operation standards** knowledge, skills and comments here.

-
-
-

AUTOMATED WAREHOUSE SYSTEMS	ASSESSMENT					
The student:	0	1	2	3	4	NA
• explains the advantages and disadvantages of using automated warehouse systems						
• demonstrates ability to safely use automated systems; e.g.:						
– conveyor systems						
– pickers						

Please refer to the standards and rating scale on page G.10.

AUTOMATED WAREHOUSE SYSTEMS (continued)	**ASSESSMENT**					
– scaling/weighing devices						
– storage and retrieval systems						
Please add any additional **automated warehouse systems** knowledge, skills and comments here. • •						

LABELLING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• identifies product and/or shipment labelling needs						
• demonstrates ability to read, interpret, select and affix appropriate labels; e.g.:						
– shipping instructions						
– content identification						
– WHMIS needs						
– quantity, mass						
– handling instructions; e.g.: *fragile*, *This side up*.						
Please add any additional **labelling** knowledge, skills and comments here. • •						

CONTAINERS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the purpose of containerizing items						
• safely operates wrapping equipment and uses wrapping materials; e.g.:						
– shrink wrap						
– nets						
– nylons						
• prepares containers for shipment; e.g.:						
– label						
– wrap						
Please add any additional **containers** knowledge, skills and comments here. • •						

Please refer to the standards and rating scale on page G.10.

PALLETS	ASSESSMENT					
The student:	0	1	2	3	4	NA
• explains purpose of palletizing items; e.g.:						
– warehouse storage						
– ease of handling (manual, automated)						
– outgoing and incoming shipments						
• demonstrates ability to safely handle pallets and palletizing equipment						

Please add any additional **pallets** knowledge, skills and comments here.
-
-
-

CAREER OPPORTUNITIES	ASSESSMENT					
The student:	0	1	2	3	4	NA
• describes the current and emerging career opportunities specific to warehousing and distribution						
• describes the requirements for a career in warehousing and distribution as a:						
– loss prevention manager						
– systems engineer						
– packaging supervisor						
– distribution centre manager						
– warehouse foreman						
– warehouse manager						
– warehouse officer						
– any other warehousing and distribution position						

Please add any additional **career** knowledge, skills and comments here.
-
-
-

Student's Name ______________________

Supervisor's Signature ______________________ Date ______________________

Teacher's Signature ______________________ Date ______________________

Please refer to the standards and rating scale on page G.10.

LOG3020: TRAFFIC & TRANSPORT 3

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is 3 .

COMPETENCIES	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						

Please add any additional **employability skills** and comments here.

•

•

•

ROUTE PLANNING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• plans a route using:						
– traditional map						
– computerized format						
• develops contingency plans where appropriate						

Please add any additional **route planning** knowledge, skills and comments here.

•

•

•

TRANSPORT REGULATIONS AND LICENCING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• identifies key:						
– transportation regulations and licencing requirements						
– weight restrictions						
– seasonal restrictions						

Please refer to the standards and rating scale on page G.10.

TRANSPORT REGULATIONS AND LICENCING (continued)	**ASSESSMENT**					
– jurisdictional restrictions and requirements						
• lists licencing required to operate different vehicles and vessels						
• uses consistently the safety standards required for each vehicle or vessel in each mode of transportation						

Please add any additional **transport regulations and licencing** knowledge, skills and comments here.

-
-
-

EQUIPMENT HANDLING	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• identifies licencing or certification requirements for each item of transportation equipment or aid						
• initiates procedures to obtain a licence or certificate (where necessary)						
• demonstrates consistent ability to safely handle, operates and uses various equipment and aids relating to traffic and transportation						

Please add any additional **equipment handling** knowledge, skills and comments here.

-
-
-

DANGEROUS GOODS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• assists in ensuring that the vendor and carrier has the necessary licencing and training to handle and transport dangerous goods						
• demonstrates consistently the safe handling, storage and transportation of dangerous goods						

Please add any additional **dangerous goods** knowledge, skills and comments here.

-
-
-

RATES AND TARIFFS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• identifies and describes transportation rates and tariffs						
• demonstrates ability to compare present proposed rates to the previous contract rate						

Please refer to the standards and rating scale on page G.10.

RATES AND TARIFFS (continued)	**ASSESSMENT**					
• assists in determining the contracted rate taking into account:						
– market prices						
– costs of the supplier						
– customer needs						

Please add any additional **rates and tariffs** knowledge, skills and comments here.

•

•

•

•

•

LIABILITIES	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• identifies liability assumed by different modes of carriers						
• identifies and describes:						
– Workers' Compensation Board (WCB) requirements						
– insurance requirements						
• identifies damage claimable:						
– items						
– procedures						
– documents						
• identifies and reports shipment over/shorts						
• explains the use of Bill of Lading and liabilities, and Freight on Board (FOB)						
• describes applications of Freight on Board statements; e.g.:						
– payment for carriage						
– selection of courier						
– limits of liability						

Please add any additional **liabilities** knowledge, skills and comments here.

•

•

•

•

•

Please refer to the standards and rating scale on page G.10.

CAREER OPPORTUNITIES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes current and emerging career opportunities in traffic and transportation						
• identifies and describes requirements for entry into a traffic and transportation career as a:						
– account manager						
– licencing/operations assistant						
– rates analyst						
– broker						
– fleet manager						
– terminal manager						
– any other traffic and transportation position						

Please add any additional **career** knowledge, skills and comments here.

-
-
-
-

Student's Name ______________________

Supervisor's Signature ______________________ Date ______________________

Teacher's Signature ______________________ Date ______________________

Please refer to the standards and rating scale on page G.10.

LOG3030: PURCHASING 3

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is 3 .

COMPETENCIES	ASSESSMENT					
The student:	0	1	2	3	4	NA
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						
Please add any additional **employability skills** and comments here. • •						

ETHICS	ASSESSMENT					
The student:	0	1	2	3	4	NA
• demonstrates understanding of the term professional ethics						
• explains the role of professional ethics in the purchasing process						
• explains the role of professional organizations such as the Purchasing Managerial Association of Canada (PMAC), National Institute of Government Purchasing (NIGP), or International Federation of Purchasing and Materials Management (IFPMM)						
• demonstrates professional ethics in conducting purchasing activities						
Please add any additional **ethics** knowledge, skills and comments here. • •						

NEGOTIATION SKILLS	ASSESSMENT					
The student:	0	1	2	3	4	NA
• defines the term “negotiate”						
• explains the purpose of negotiating in purchasing activities						
• demonstrates basic negotiation skills in purchasing activities						

Please refer to the standards and rating scale on page G.10.

NEGOTIATION SKILLS (continued)	**ASSESSMENT**
Please add any additional **negotiation skills** knowledge, skills and comments here. • •	

CONTRACT AND BUSINESS LAW	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• identifies key principles of contract and business law; e.g.:						
– liens						
– waivers						
– liability						
– negligence						
• explains the impact of contract and business law on purchasing activities						
• identifies and describes legislation that affects purchasing activities; e.g.: *Sales of Goods Act*						
• identifies purchasing activities that are in alignment with contract and business law and relevant legislation						
• assists in performing purchasing activities that are in alignment with contract and business law and relevant legislation						
Please add any additional **contract and business law** knowledge, skills and comments here. • •						

SUPPLIER QUALITY ASSURANCE	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the principles of Supplier Quality Assurance (SQA)						
• identifies and describes the impact of SQA on:						
– delivery						
– equality						
– invoicing						
– damaged goods						
– customer service						
Please add any additional **supplier quality assurance** knowledge, skills and comments here. • •						

Please refer to the standards and rating scale on page G.10.

PERFORMANCE MANAGEMENT	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the principle of performance management						
• identifies and describes the purpose of performance management in purchasing activities						
• identifies and describes performance management models; e.g.:						
– Total Quality Management (TQM)						
– Quality Teams						
• assesses performance management models employed using appropriate assessment tools and instruments						
• demonstrates basic performance management skills when participating in purchasing activities						
Please add any additional **performance management** knowledge, skills and comments here. • •						

CAREER OPPORTUNITIES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes current and emerging career opportunities specific to purchasing						
• identifies and describes the requirements for entry into a purchasing career as a:						
– cost analyst						
– special products buyer						
– senior purchasing agent						
– mobile equipment buyer						
– any other purchasing position						
Please add any additional **career** knowledge, skills and comments here. • •						

Student's Name ______________________

Supervisor's Signature ______________________ Date ______________________

Teacher's Signature ______________________ Date ______________________

Please refer to the standards and rating scale on page G.10.

LOG3040: INVENTORY MANAGEMENT 2

COMPETENCY PROFILE AND ASSESSMENT CHECKLIST

The standard required for competencies in this module is $\boxed{3}$.

COMPETENCIES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates **employability skills** including:						
– communication skills						
– teamwork						
– personal management						
– problem solving						
– basic computer keyboarding						
– mathematical skills						
Please add any additional **employability skills** and comments here. • • • •						

PRODUCT MOVEMENT AND REPLENISHMENT STRATEGIES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates knowledge about product movement and replenishment strategies in use; e.g. degree, level, complexity						
• demonstrates appropriate product movement and replenishment strategies in the workplace						
Please add any additional **product movement and replenishment strategies** knowledge, skills and comments here. • • • •						

BUDGET PROCEDURES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• identifies key steps in the budget procedure						
• explains the impact of inventory control on the budget						

Please refer to the standards and rating scale on page G.10.

BUDGET PROCEDURES (continued)	**ASSESSMENT**					
• explains the impact of the budget on inventory management; e.g.:						
– cost control						
– product quality						
• assists with basic budgeting procedures						

Please add any additional **budget procedures** knowledge, skills and comments here.

•
•
•

USING TECHNOLOGY	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• demonstrates ability to manage and control inventory, using:						
– manual records						
– microfiche						
– spreadsheets						
– database systems						
• demonstrates ability to:						
– access inventory information						
– input inventory information						
– interpret information from various databases and apply the information appropriately						

Please add any additional **technology** knowledge, skills and comments here.

•
•
•

INTERNAL CONTROLS	**ASSESSMENT**					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the purpose of inventory controls; e.g., security						
• identifies and describes the internal inventory controls in effect; e.g.:						
– managerial practices						
– inventory flow						
– paper trail						

Please refer to the standards and rating scale on page G.10.

INTERNAL CONTROLS	ASSESSMENT					
• demonstrates basic ability to use and maintain internal inventory controls						
Please add any additional **internal controls** knowledge, skills and comments here. • • •						

ASSET RECOVERY	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• explains the purpose and importance of asset recovery						
• describes basic strategies for asset recovery; e.g.:						
– asset disposition						
– recycling						
– reuse						
– recovery						
• assists in asset recovery strategies in inventory control activities						
Please add any additional **asset recovery** knowledge, skills and comments here. • • •						

CAREER OPPORTUNITIES	ASSESSMENT					
The student:	**0**	**1**	**2**	**3**	**4**	**NA**
• describes current and emerging career opportunities specific to inventory management and control						
• identifies and describes requirements for entry into an inventory management and control career as a:						
– picker						
– order clerk						
– inventory analyst						
– loss prevention manager						
– software support buyer						
– MRO inventory specialist						
– any other inventory management and control position						

Please refer to the standards and rating scale on page G.10.

CAREER OPPORTUNITIES (continued)	**ASSESSMENT**
Please add any additional **career** knowledge, skills and comments here.	

Student's Name ____________________

Supervisor's Signature ____________________ Date ____________________

Teacher's Signature ____________________ Date ____________________

Please refer to the standards and rating scale on page G.10.

LOGISTICS

SECTION H: LINKAGES/TRANSITIONS

This section of the Guide has been designed to provide an overview of linkages and transitions of CTS modules with a number of organizations. The charts and information presented in this section will assist CTS students and teachers in understanding the potential application of CTS modules as students move into the workplace.

TABLE OF CONTENTS

LINKAGES

With Other CTS Strands H.3
With Other Secondary Programs H.4

TRANSITIONS

To the Workplace H.4

Charts:

Logistics: Connections with Other CTS Strands H.5
Logistics: Connections Across the Curriculum H.6
Logistics: Related Occupations H.7

LINKAGES/TRANSITIONS

LINKAGES

With Other CTS Strands

In Logistics, students have the opportunity to develop knowledge, skills and attitudes in warehousing and distributing, transportation, purchasing and inventory control and management. Students are encouraged to link the competencies they are developing in these areas to other CTS strands. Linkages exist with other strands where products and information are produced, moved to and finally reach the ultimate consumers. The following chart outlines potential linkages.

Strand	Themes and/or Modules
Agriculture	Modules in the technology and applications theme may be linked to the Logistics strand.
Career Transitions	Project modules can be used to provide students with extended time for developing skills in a variety of Logistics modules. Leadership and safety modules link with all Logistics modules.
Communication Technology	Presentation modules can enhance students' range of competencies in Logistics contexts.
Community Health	Personal Safety (Management) module is offered in both strands.
Construction Technologies	Project Management modules link to the Logistics strand.
Cosmetology Studies	No direct linkages. However, enhancement of personal grooming and image will enhance employability in the Logistics sector.
Design Studies	Modules in all themes that focus on visualization and the movement and organization of resources may be linked to Logistics.
Electro-Technologies	Modules in Computer Logic Systems and Robotic and Control Systems can enhance the employability of students enrolled in the Logistics strand.
Energy & Mines	Modules in the Technology and Applications theme that focus on supply and distribution networks and market trends can enhance range of knowledge in Logistics contexts.
Enterprise & Innovation	All themes in Enterprise and Innovation may have an application in the Logistics strand.
Fabrication Studies	Modules in the Materials and Structures theme and other modules that address the control movement and distribution of inventory may be related to Logistics.

Strand	Themes and/or Modules
Financial Management	Modules in all themes that address the inputting and manipulation of data can be related to selected Logistics modules.
Foods	No direct linkages. However, Logistics modules may be related to the control and storage of food stuffs in the hospitality industry.
Forestry	Selected modules in the Technology and Applications theme and the Management and Conservation theme may be related to the Logistics strand.
Information Processing	Most modules in the Information Processing strand have strong linkages with Logistics.
Legal Studies	Laws relating to business have strong linkages to all Logistics themes. Modules that have strong links include Labour Law, Consumer and Property Law, Laws Affecting Small Business.
Management and Marketing	Modules in all themes have close relationships to the Logistics strand.
Mechanics	Vehicle Service and Care and Vehicle Maintenance modules may be related to the Traffic and Transportation theme in Logistics.
Tourism	Selected modules in all themes may be related to the Logistics strand.

Charts outlining these linkages are provided in this section (see "Logistics: Connections with Other CTS Strands," page H.3).

With Other Secondary Programs

Logistics reinforces learnings in other areas (see "Logistics: Connections Across the Curriculum" in this section).

TRANSITIONS

To the Workplace

Information from the National Occupational Classification (NOC) regarding occupations in related areas that can be accessed upon completion of high school is provided in this section (see "Logistics: Related Occupations").

LINKAGES – *Logistics: Connections with Other CTS Strands*

Logistics Modules	Other CTS Strands																				
	Agriculture	Career Transitions	Communication Technology	Community Health	Construction Technologies	Cosmetology Studies	Design Studies	Energy and Mines	Electro Technologies	Enterprise and Innovation	Fashion Studies	Financial Management	Foods	Fabrication Studies	Forestry	Information Processing	Legal Studies	Management and Marketing	Mechanics	Tourism Studies	Wildlife
Theme: Introduction to Logistics																					
LOG1010: Logistics	▤	■						▤		▤					▤	▤		▤			
Theme: Warehousing and Distribution																					
LOG1020: Warehouse & Distribute 1	▤	■						▤		▤					▤	▤		▤			
LOG2010: Warehouse & Distribute 2	▤	■						▤		▤					▤	▤		▤			
LOG3010: Warehouse & Distribute 3	▤	■						▤		▤					▤	▤		▤			
Theme: Traffic and Transportation																					
LOG1030: Traffic & Transport 1	▤	■						▤		▤					▤	▤		▤			
LOG2020: Traffic & Transport 2	▤	■						▤		▤					▤	▤		▤			
LOG3030: Traffic & Transport 3	▤	■						▤		▤					▤	▤		▤			
Theme: Purchasing																					
LOG1040: Purchasing 1	▤	■						▤		▤					▤	▤		▤			
LOG2030: Purchasing 2	▤	■						▤		▤					▤	▤		▤			
LOG3030: Purchasing 3	▤	■						▤		▤					▤	▤		▤			
Theme: Inventory Management and Control																					
LOG2040: Inventory Management 1	▤	■						▤		▤					▤	▤		▤			
LOG3040: Inventory Management 2	▤	■						▤		▤					▤	▤		▤			

Provides many direct links with content in this strand. Students will reinforce, extend and apply a substantial number of knowledge and/or skill components in practical situations.	■
Provides some links with competencies developed in this strand, usually through the application of related technologies and/or processes.	▤

BEST COPY AVAIL

LINKAGES – *Logistics: Connections Across the Curriculum*

Across the Curriculum

Logistics Modules	Junior High							Senior High										
	Language Arts	Social Studies	Mathematics	Science	Health & PLS	Physical Education	Fine Arts	English	Social Studies	Mathematics	Science (General)	Biology	Chemistry	Physics	CALM	Physical Education	Fine Arts	Social Sciences
Theme: Introduction to Logistics																		
LOG1010: Logistics		▤													▤			▤
Theme: Warehousing and Distribution																		
LOG1020: Warehouse & Distribute 1		▤													■			
LOG2010: Warehouse & Distribute 2		▤													■			
LOG3010: Warehouse & Distribute 3		▤													■			
Theme: Traffic & Transportation																		
LOG1030: Traffic & Transport 1		▤													■			■
LOG2020: Traffic & Transport 2		▤													■			■
LOG3030: Traffic & Transport 3		▤													■			■
Theme: Purchasing																		
LOG1040: Purchasing 1		▤													■			
LOG2030: Purchasing 2		▤													■			
LOG3030: Purchasing 3		▤													■			
Theme: Inventory Management and Control																		
LOG2040: Inventory Management 1		▤													▤			
LOG3040: Inventory Management 2		▤													▤			

Provides many direct links with course content. Students will reinforce, extend and apply a substantial number of knowledge and/or skill components in practical contexts.	■
Provides some links with course content, usually through the application of related technologies and/or processes.	▤

BEST COPY AVAILABLE

TRANSITIONS – *Logistics: Related Occupations*

Information for this chart was obtained from the National Occupational Classification (NOC) descriptions.

Educational Requirements:

D:	High School Education	B:	College or Vocational Education
C:	Apprenticeship	A:	University

Occupation Profile	NOC#	D	C	B	A
Aerospace Engineer	2146				✓
Aircraft Assemblers and Assembly Inspectors	9226			✓	
Aircraft Instrument, Electrical and Avionics Mechanics, Technicians and Inspectors	2244		T/✓	✓	
Aircraft Mechanic and Aircraft Inspectors	7315			✓	
Airline Sales and Service Agents	6433	✓			
Airline Pilots, Flight Engineers and Flying Instructors	2271	✓		✓	✓
Air Traffic Control Occupations	2272	✓			
Air Transport Ramp Attendant	7437	✓			
Boat Assemblers and Inspectors	9491	✓			
Bus Drivers, Subway Operators and Other Transit Operators	7412	✓			
Couriers and Messengers	1463	✓			
Deck Officers, Water Transport	2273	✓			
Delivery Driver	7414	✓			
Engine Room Crew, Water Transport	7434	✓			
Engineering Inspectors and Regulatory Officers	2262			✓	✓
Engineering Officers, Water Transport	2274	✓			
Facility Operations Manager	0721			✓	✓
Letter Carrier	1462	✓			
Lock and Cable Ferry Operators and Related Occupations	7435	✓			
Longshore Worker	7451	✓			
Mail, Postal and Related Clerks	1461	✓			
Materials Handler	7452	✓			
Other Service Manager	0621			✓	
Postal and Courier Services Managers	0132			✓	✓
Pursers and Flight Attendants	6432	✓			
Railway and Marine Traffic Controllers	2275	✓			
Railway and Motor Transport Labourers	7622	✓			
Railway and Yard Locomotive Engineers	7361	✓			
Railway Carmen/Women	7314	✓			
Railway Conductors and Brakemen/Women	7362	✓			
Railway Track Maintenance Workers	7432	✓			
Railway Yard Worker	7431	✓			
Retail Trade Manager	0621			✓	✓

TRANSITIONS – *Logistics: Related Occupations* (continued)

Occupation Profile	NOC#	D	C	B	A
Sales Representatives, Wholesale Trade (non-technical)	6411				✓
Shippers and Receivers	1471	✓			
Supervisors, Motor Transport and Other Ground Transit Operators	7222	✓			
Supervisors, Recording, Distributing and Scheduling Occupations	1215	✓			
Taxi and Limousine Drivers and Chauffeurs	7413	✓			
Technical Inspector	2232	✓			
Ticket and Cargo Agents and Related Clerks (except Airline)	6434	✓			
Transportation Manager	0713				✓
Transportation Route and Crew Schedulers	1476	✓			
Truck Driver	7411	✓			

LOGISTICS

SECTION I: LEARNING RESOURCE GUIDE

This section of the GSI has been designed to provide a list of resources that support student learning.

Three types of resources are identified:

- Authorized: Resources authorized by Alberta Education for CTS curriculum; these resources are categorized as basic, support, or teaching
- Other: Titles provided as a service to assist local jurisdictions to identify resources that contain potentially useful ideas for teachers. Alberta Education has done a preliminary review of these resources, but further review will be necessary prior to use in school jurisdictions
- Additional: A list of local, provincial and national sources of information available to teachers, including the community, government, industry, and professional agencies and organizations.

The information contained in this Guide, although as complete and accurate as possible as of June 1997, is time-sensitive.

For the most up-to-date information on learning resources and newer editions/versions, consult the LRDC *Buyers Guide* and/or the agencies listed in the Distributor Directory at the end of this section.

CTS is on the Internet.
Internet Address:
http://ednet.edc.gov.ab.ca

TABLE OF CONTENTS

INTRODUCTION I.5
  CTS and the Resource-based Classroom I.5
  Purpose and Organization of this Document I.5
  How to Order I.6
  Resource Policy I.6

AUTHORIZED RESOURCES I.7
  Basic Learning Resources I.7
  Support Learning Resources I.8
  Teaching Resources I.9
  Logistics Resources (Correlation Charts) I.11

OTHER RESOURCES I.13

ADDITIONAL SOURCES I.15

DISTRIBUTOR DIRECTORY I.19

INTRODUCTION

CTS AND THE RESOURCE-BASED CLASSROOM

Career and Technology Studies (CTS) encourages teachers to establish a resource-based classroom, where a variety of appropriate, up-to-date print and nonprint resources are available. Learning resources identified for CTS strands include print, software, video and CD-ROM formats. Also of significance and identified as appropriate throughout each strand are sources of information available through the Internet.

The resource-based classroom approach accommodates a variety of instructional strategies and teaching styles, and supports individual or small group planning. It provides students with opportunities to interact with a wide range of information sources in a variety of learning situations. Students in CTS are encouraged to take an active role in managing their own learning. Ready access to a strong resource base enables students to learn to screen and use information appropriately, to solve problems, to meet specific classroom and learning needs, and to develop competency in reading, writing, speaking, listening and viewing.

PURPOSE AND ORGANIZATION OF THIS DOCUMENT

The purpose of this document is to help teachers identify a variety of resources to meet their needs and those of the students taking the new CTS curriculum. It is hoped that this practical guide to resources will help teachers develop a useful, accessible resource centre that will encourage students to become independent, creative thinkers.

This document is organized as follows:

- Authorized Resources:
    - – basic learning resources
    - – support learning resources
    - – teaching resources
- Other Resources
- Additional Sources
- Distributor Directory.

Some resources in the guide have been authorized for use in some or all of the CTS strands, e.g., the Career and Technology Studies video series produced by ACCESS: The Education Station. Further information is provided in relevant sections of this resource guide.

Each resource in the guide provides bibliographic information, an annotation where appropriate, and a module correlation to the CTS modules. The distributor code for each entry will facilitate ordering resources. It is recommended that teachers preview all resources before purchasing, or purchase one copy for their reference and additional copies as required.

Distributor Code	Resources		Levels/Mod. No.		
			1	2	3
ACC	Title	Author	1010	2010	3010
	Bibliographic Information				
	Annotation				

1 = Introductory
2 = Intermediate
3 = Advanced

Indicates module number

Distributor Code - see Distributor Directory

HOW TO ORDER

Most authorized resources are available from the Learning Resources Distributing Centre (LRDC) at:

12360 – 142 Street
Edmonton, AB T5L 4X9
Telephone: 403–427–5775 (outside of Edmonton dial 310–0000 to be connected toll free)
Fax: 403–422–9750
Internet: http://ednet.edc.gov.ab.ca/lrdc

Please check LRDC for availability of videos.

RESOURCE POLICY

Alberta Education withdraws learning and teaching resources from the provincial list of approved materials for a variety of reasons; e.g., the resource is out of print; a new edition has been published; the program has been revised. Under section 44 (2) of the *School Act*, school boards may approve materials for their schools, including resources that are withdrawn from the provincial list. **Many school boards have delegated this power to approve resources to school staff or other board employees under section 45 (1) of the *School Act*.**

For further information on resource policy and definitions, refer to the *Student Learning Resources Policy* and *Teaching Resources Policy* or contact:

Learning Resources Unit, Curriculum Standards Branch
Alberta Education
5th Floor, Devonian Building, East Tower
11160 Jasper Avenue
Edmonton, AB T5K 0L2
Telephone: 403–422–4872 (outside of Edmonton dial 310–0000 to be connected toll free)
Fax: 403–422–0576
Internet: http://ednet.edc.gov.ab.ca

Note: Owing to the frequent revisions of computer software and their specificity to particular computer systems, newer versions may not be included in this guide. However, schools may contact the LRDC directly at 403–427–5775 for assistance in purchasing computer software.

Trademark Notices: Microsoft, Access, Excel, FoxPro, Mail, MS-DOS, Office, PowerPoint, Project, Publisher, Visual Basic, Visual C++, Windows, Windows NT, Word, and Works are either registered trademarks or trademarks of Microsoft Corporation. Apple, Mac, Macintosh, and Power Macintosh are either registered trademarks or trademarks of Apple Computer, Inc. Other brand and product names are registered trademarks or trademarks of their respective holders.

AUTHORIZED RESOURCES

BASIC LEARNING RESOURCES

The following basic learning resources have been authorized by Alberta Education for the use in the Logistics curriculum. These resources address the majority of the learner expectations in one or more modules and/or levels. A curriculum correlation appears in the right-hand column.

Distributor Code	Resources	Levels/Module No.		
		1	2	3
LRDC	*Connect Canada Series: Moving People and Resources: Studies in Transportation*. D.C. Wilson and R. Lorimer. Calgary: Detselig Enterprises Ltd., 1991. This resource provides a brief but concise overview of the role and impact of logistics in Canada. Both a historical and a contemporary view of logistics is presented and includes a multi-modal perspective on systems of transportation, vehicles and vessels.	1010 1020 1030	2010 2020	3010 3020

SUPPORT LEARNING RESOURCES

The following support learning resources are authorized by Alberta Education to assist in addressing some of the learner expectations of a module or components of modules.

Distributor Code	Resources	Levels/Module No.		
		1	2	3
ACC	*Career and Technology Studies: Key Concepts.* Edmonton, AB: ACCESS: The Education Station. A series of videos and utilization guides relevant to all CTS strands. The series consists of: *Anatomy of a Plan; Creativity; Electronic Communication; The Ethics Jungle; Go Figure; Innovation; Making Ethical Decisions; Portfolios; Project Planning; Responsibility* and *Technical Writing*..	all	all	all
LRDC	*Exploring Transportation.* S.R. Johnson and P.A. Farrar-Hunter. Illinois: Goodheart-Willcox Company, Inc./Irwin Publishing, 1993. Student Text and Student Activity Manual. *Exploring Transportation* is organized into 24 chapters and six sections. The first of these sections introduces the concepts of transportation, energy and power. Then it explains the close relationship that brings these three elements together. The next section discusses the sources of energy, how we can convert them to power sources and how power is used in transportation. The third section is about mechanical, electrical and fluid power systems and how they operate. The fourth section deals with familiar modes of transportation: land, water, air and space. A fifth system known as inter-modal (a combination of several modes) is introduced. The fifth section discusses vehicle systems and how systems are combined to move, support and control all types of vehicles. A final section indicates the future of transportation and how it is likely to affect the way you live. An instructor's guide is available.	1010 1030	2020	3020
LRDC	*Personal Safety in Tanker Truck Loading and Off-Loading.* Mississauga ON: Westwood Screen. Marlin Motion Pictures Ltd., 1990. This 16-minute video stresses accident prevention as the best means of defence. Whether loading or unloading liquid or dry materials, corrosive or explosive materials, this program cites two universal methods for working safely with these substances - knowing the nature of the load and how it will react, and knowing the appropriate protective equipment to use when working with the load. Also covered is the importance of knowing the loading/off-loading site and where the first aid and emergency facilities are located.	1030	2020	3020

TEACHING RESOURCES

The following teaching resources are authorized by Alberta Education to assist teachers in the instructional process.

Distributor Code	Resources	Levels/Module No.		
		1	2	3
LRDC	*Exploring Transportation.* S.R. Johnson and P.A. Farrar-Hunter. Illinois: Goodheart-Willcox Company Inc./Irwin Publishing, 1993. Instructor's Guide. This resource assists teachers in addressing content found in: • Exploring Transportation: Student Text • Exploring Transportation: Student Activity Manual. See Support Learning Resources for annotation and module correlation.			

LOGISTICS RESOURCES

THEME CODE:
A. Introduction to Logistics
B. Warehousing and Distribution
C. Traffic and Transportation
.D. Purchasing
E. Inventory Management and Control

FORMAT CODE:
p - Print
v - Video
s - Software

STATUS CODE:
B - Basic
S - Support
T - Teaching
O - Other

LEVEL CODE:
1 - Introductory
2 - Intermediate
3 - Advanced

JR/SR HIGH CODE:
J - Junior High
S - Senior High

LEVEL				1	1	1	1	2	2	2	2	3	3	3	3
THEME				A	B	C	D	B	C	D	E	B	C	D	E
	Format	*Status*	*Junior/Senior High*	Logistics	Warehouse & Distribute 1	Traffic & Transport 1	Purchasing 1	Warehouse and Distribute 2	Traffic & Transport 2	Purchasing 2	Inventory Management 1	Warehouse & Distribute 3	Traffic & Transport 3	Purchasing 3	Inventory Management 2
Module Number				1010	1020	1030	1040	2010	2020	2030	2040	3010	3020	3030	3040
Canadian Transportation Law Report Volume 1 & 2	*p*	O	J/S	X	X	X	X	X	X	X	X	X	X	X	X
Connect Canada Series: Moving People and Resources: Studies in Transportation	*p*	B	J/S	X	X	X		X	X			X	X		
Exploring Transportation				X		X			X				X		
Text	*p*	S	J/S												
Activity Manual	*p*	S	J/S												
Instructor's Guide	*p*	T	J/S												
Personal Safety in Tanker Truck Loading and Off-Loading	*v*	S	J/S			X			X				X		

BEST COPY AVAILABLE

OTHER RESOURCES

These titles are provided as a service only to assist local jurisdictions to identify resources that contain potentially useful ideas for teachers. Alberta Education has done a preliminary review of the resources. However, the responsibility to evaluate these resources prior to selection rests with the user, in accordance with any existing local policy.

Distributor Code	Other Resources	Levels/Module No.		
		1	2	3
CCH	*Canadian Transportation Law Reporter*. Ontario: CCH Canadian Limited, 1991. This two-volume resource provides comprehensive information about all elements of the logistics sector. In addition, historical information and related legislation is provided. The resource is in loose leaf format contained in binders. Schools may subscribe to receive regular updates to the various sections of the resource. A Special Student Edition at a reduced cost is available.	1010 1020 1030 1040	2010 2020 2030 2040	3010 3020 3030 3040

ADDITIONAL SOURCES

Available to Career and Technology Studies (CTS) teachers, locally and provincially, are many sources of information that can be used to enhance CTS. These sources are available through the community (e.g., libraries, boards, committees, clubs, associations) and through government agencies, resource centres and organizations. Some sources, e.g., government departments, undergo frequent name and/or telephone number changes. Please consult your telephone directory or an appropriate government directory.

The following is a partial list of sources to consider:

TEACHER–LIBRARIANS

Planned and purposeful use of library resources helps students grow in their ability to gather, process and share information. Research activities require access to an adequate quantity and variety of appropriate, up-to-date print and nonprint resources from the school library, other libraries, the community and additional sources. Some techniques to consider are:

- planning together
- establishing specific objectives
- integrating research skills into planning.

Cooperation between the teacher-librarian and the subject area teacher in the development of effectively planned resource-based research activities ensures that students are taught the research skills as well as the subject content. Also see *Focus on Research: A Guide to Developing Student's Research Skills* referenced in the Alberta Education resources section.

ALBERTA EDUCATION SOURCES

Alberta Government telephone numbers can be reached toll free from outside Edmonton by dialing 310–0000.

The following monographs are available for purchase from the Learning Resources Distributing Centre. Refer to the Distributor Directory at the end of this section for address, telephone, fax and Internet address.

Please consult the "Support Documents" section or the "Legal, Service and Information Publications" section in the LRDC *Buyers Guide* for ordering information and costs.

Developmental Framework Documents

- *The Emerging Student: Relationships Among the Cognitive, Social and Physical Domains of Development,* 1991 (Stock No. 161555)

  This document examines the child, or student, as a productive learner, integrating all the domains of development: cognitive, social and physical. It emphasizes the need for providing balanced curriculum and instruction.

- *Students' Interactions Developmental Framework: The Social Sphere,* 1988 (Stock No. 161399)

  This document examines children's perceptual, structural and motor development and how such physical development affects certain learning processes.

- *Students' Physical Growth: Developmental Framework Physical Dimension,* 1988 (Stock No. 161414)

  This document examines children's normal physical growth in three areas: perceptual, structural and motor development. In none of these areas is the child's growth in a single continuous curve throughout the first two decades of life. Physical growth is characterized by periods of rapid growth and periods of slower growth. Consequently, differences and changes in growth patterns may affect the timing of certain learning processes.

Other

- *Focus on Research: A Guide to Developing Students' Research Skills,* 1990 (Stock No. 161802)

  This document outlines a resource-based research model that helps students manage information effectively and efficiently, and gain skills that are transferable to school and work situations. This model provides a developmental approach to teaching students how to do research.

- *Teaching Thinking: Enhancing Learning,* 1990 (Stock No. 161521)

  Principles and guidelines for cultivating thinking, ECS to Grade 12, have been developed in this resource. It offers a definition of thinking, describes nine basic principles on which the suggested practices are based, and discusses possible procedures for implementation in schools and classrooms.

ACCESS: The Education Station

ACCESS: The Education Station offers a variety of resources and services to teachers. For a nominal dubbing and tape fee, teachers may have ACCESS: The Education Station audio and video library tapes copied. ACCESS: The Education Station publishes listings of audio and video cassettes as well as a comprehensive programming schedule.

Of particular interest are the CTS videos, which are available with utilization guides. The guides outline key points in each video and suggest questions for discussion, classroom projects and other activities. Video topics are listed in the Support Learning Resources section of this guide. The videos and accompanying support material can be obtained from ACCESS: The Education Station. Refer to the Distributor Directory at the end of this section for address, telephone, fax and Internet address.

GOVERNMENT SOURCES

National Film Board of Canada (NFB)

The NFB has numerous films and videotapes that may be suitable for Career and Technology Studies strands. For a list of NFB films and videotapes indexed by title, subject and director, or for purchase of NFB films and videotapes, call 1-800-267-7710 (toll free) or Internet address: http://www.nfb.ca

ACCESS: The Education Station and some school boards have acquired duplication rights to some NFB videotapes. Please contact ACCESS: The Education Station or consult the relevant catalogues in your school or school district.

The Edmonton Public Library and the Calgary Public Library have a selection of NFB films and videotapes that can be borrowed free of charge with a Public Library borrower's card. For further information, contact:

Edmonton Public Library
Telephone: 403–496–7000

Calgary Public Library
Telephone: 403–260–2650

For further information contact:

Statistics Canada
Regional Office
8th Floor, Park Square
10001 Bellamy Hill
Edmonton, AB T5J 3B6
Telephone: 403–495–3027
Fax: 403–495–5318
Internet address: http://www.statcan.ca

Statistics Canada produces periodicals, reports, and an annual year book.

Resource Centres

Urban Resource Centres

Instructional Services
Elk Island Public Schools
2001 Sherwood Drive
Sherwood Park, AB T8A 3W7
Telephone: 403–464–8235
Fax: 403–464-8033
Internet Address: http://ei.educ.ab.ca

Learning Resources Centre
Red Deer Public School Board
4747 – 53 Street
Red Deer, AB T4N 2E6
Telephone: 403–343–8896
Fax: 403–347–8190

Instructional Materials Centre
Calgary Separate School Board
6220 Lakeview Drive SW
Calgary, AB T3E 5T1
Telephone: 403–298–1679
Fax: 403–249–3054

School, Student, Parent Services Unit
Program and Professional Support Services Sub Unit
Calgary Board of Education
3610 – 9 Street SE
Calgary, AB T2G 3C5
Telephone: 403–294–8542
Fax: 403–287–9739

After July 1, 1997, please contact the School, Student, Parent Services Unit regarding the relocation of the Loan Pool Resource Unit.

Learning Resources
Edmonton Public School Board
Centre for Education
One Kingsway Avenue
Edmonton, AB T5H 4G9
Telephone: 403–429–8387
Fax: 403–429–0625

Instructional Materials Centre
Medicine Hat School District No. 76
601 – 1 Avenue SW
Medicine Hat, AB T1A 4Y7
Telephone: 403–528–6719
Fax: 403–529–5339

Resource Centre
Edmonton Catholic Schools
St. Anthony's Teacher Centre
10425 – 84 Avenue
Edmonton, AB T6E 2H3
Telephone: 403–439–7356
Fax: 403–433–0181

Instructional Media Centre
Northern Lights School Division No. 69
Bonnyville Centralized High School
4908 – 49 Avenue
Bonnyville, AB T9N 2J7
Telephone: 403–826–3366
Fax: 403–826–2959

Regional Resource Centres

Zone 1

Zone One Regional Resource Centre
P.O. Box 6536
10020 – 101 Street
Peace River, AB T8S 1S3
Telephone: 403–624–3187
Fax: 403–624–5941

Zone 2/3

Central Alberta Media Services (CAMS)
182 Sioux Road
Sherwood Park, AB T8A 3X5
Telephone: 403–464–5540
Fax: 403–449–5326

Zone 4

Information and Development Services
Parkland Regional Library
5404 – 56 Avenue
Lacombe, AB T4L 1G1
Telephone: 403–782–3850
Fax: 403–782–4650
Internet Address: http://rtt.ab.ca.rtt/prl/prl.htm

Zone 5

South Central Alberta Resource Centre (SCARC)
Golden Hills Regional Division
435A Hwy 1
Westmount School
Strathmore, AB T0J 3H0
Telephone: 403–934–5028
Fax: 403–934–5125

Zone 6

Southern Alberta Learning Resource Centre (SALRC)
Provincial Government Administration Building
909 Third Avenue North, Room No. 120
Box 845
Lethbridge, AB T1J 3Z8
Telephone: 403–320–7807
Fax: 403–320–7817

PROFESSIONAL ORGANIZATIONS

ATEC
12th Floor, Sterling Place
9940 – 106 Street
Edmonton, AB
T5K 2N2
Telephone: 422–0781
Fax: 422–3430

Resources previously available through ATEC may now be available from Training Resource Centre, Grant MacEwan Community College.

ASSOCIATIONS

Alberta Safety Council
201, 10526 Jasper Avenue
Edmonton, AB T5J 1Z7
Telephone: 403–428–7555
Fax: 403–428–7557

Canada Safety Council
1020 Thomas Spratt Place
Ottawa, ON K1G 5L5
Telephone: 613–739–1535
Fax: 613–739–1566

ADDITIONAL SOURCES OF LOGISTICS INFORMATION

Canadian Professional Logistics Institute
33 Yonge Street, Suite 710
Toronto, ON M5E 1G4
Telephone: 416–363–3005
Fax: 416–363–5598

Purchasing Management Association of Canada
2 Carlton Street, Suite 1414
Toronto, ON M4B 1J3
Telephone: 416–977–7111
Fax: 416–977–8886

Canadian Association of Logistics Management
610 Alden Road, Suite 201
Markham, ON L3R 9Z1
Telephone: 905–513–7300
Fax: 905–513–1248

LOGISTICS-RELATED PUBLICATIONS

Materials Management and Distribution: Canada's Toter Logistics Magazine
Office: 777 Bay Street
Toronto, ON M5W 1A7
Subscription Department
Telephone: 1–800–567–0444
Fax: 905–946–1679

Modern Purchasing
Maclean Hunter Canadian Publishing
Office: 777 Bay Street
Toronto, ON
M5W 1A7
Subscription Department
Telephone: 416–596–5000
Fax: 416–596–5866

Canadian Logistics Journal
The Logistics Institute
33 Yonge Street, Suite 710
Toronto, ON
M5E 1G4
Telephone: 416–363–3005
Fax: 416–363–5598

DISTRIBUTOR DIRECTORY

The entries in the Distributor Directory are arranged alphabetically by code.

CODE	Distributor/Address	Contact Via
ACC	ACCESS: The Education Station 3270 – 76 Avenue Edmonton, AB T6B 2N9	403–440–7777 Fax: 403–440–8899 1–800–352–8293 http://www.ccinet.ab.ca/access
CCH	CCH Canadian Ltd. Head Office 6 Garamond Court North York, ON M3C 1Z5	416–441–2992 Fax: 416–444–9011 Alberta Office in Calgary 403–269–2169
LRDC	Learning Resources Distributing Centre 12360 – 142 Street Edmonton, AB T5L 4X9	403–427–5775 Fax: 403–422–9750 http://ednet.edc.gov.ab.ca/lrdc
TRC	Training Resource Centre Grant MacEwan Community College City Centre Campus Room 5–309, 10700 – 104 Avenue Edmonton, AB T5J 4S2 • Memberships must be purchased.	403–497–5475 Fax: 403–497–5677

LOGISTICS

SECTION J: SAMPLE STUDENT LEARNING GUIDES

The following pages provide background information, strategies and a template for developing student learning guides.

A student learning guide provides information and direction to help students attain the expectations defined in a specified CTS module. It is designed to be used by students under the direction of a teacher.

Many excellent student learning guides (SLGs) are available for use and/or are in the process of being developed. While Alberta Education provides a development template, most student learning guide development is being done by individuals and organizations across the province (e.g., school jurisdictions, specialist councils, post-secondary organizations). Refer to the *Career & Technology Studies Manual for Administrators, Counsellors and Teachers* (Appendix 11) for further information regarding student learning guide developers and sources.

TABLE OF CONTENTS

BACKGROUND INFORMATION J.3
  Components of a Student Learning Guide J.3
  Strategies for Developing Student Learning Guides J.4

SAMPLE STUDENT LEARNING GUIDE TEMPLATE J.5

BACKGROUND INFORMATION

A Student Learning Guide (SLG) is a presentation of information and direction that will help students attain the expectations defined in a specified CTS module. It is designed to be used by students under the direction of a teacher. A SLG is not a self-contained learning package such as you might receive from the Alberta Distance Learning Centre (ADLC) or Distance Learning Options South (DLOS).

Each SLG is based on curriculum and assessment standards as defined for a particular CTS module. Curriculum and assessment standards are defined in this document through:

- module and specific learner expectations (Sections D, E and F)
- assessment criteria and conditions (Sections D, E and F)
- assessment tools (Section G).

The SLG is written with the student in mind and makes sense to the student in the context of his or her CTS program. SLGs are designed to guide students through modules under the direction of the teacher. They can be used to guide:

- an entire class
- a small groups of students
- individual students.

In some instances, the Student Learning Guide may also be used as teacher lesson plans. When using SLGs as teacher lesson plans, it should be noted that they tend to be:

- learner-centred (versus teacher-directed)
- activity-based (versus lecture-based)
- resource-based (versus textbook-based).

Components of a Student Learning Guide

The student learning guide format, as developed by Alberta Education, typically has *seven* components as described below.

1. *Why Take This Module?*

   This section provides a brief rationale for the work the student will do, and also establishes a context for learning (i.e., in relation to the strand, a life pursuit, a specific industry, etc.).

2. *What Do You Need To Know Before You Start?*

   In this section, prerequisite knowledge, skills and attitudes considered necessary for success in the module are identified. Prerequisites may include other modules from within the strand or from related CTS strands, as well as generic knowledge and skills (e.g., safety competencies, the ability to measure/write/draw, prior knowledge of basic information relevant to the area of study).

3. *What Will You Know And Be Able To Do When You Finish?*

   This information must parallel and reflect the curriculum and assessment standards as defined for the module. You may find it desirable to rewrite these standards in less formal language for student use.

4. *When Should Your Work Be Done?*

   This section provides a timeline that will guide the student in planning their work. The timeline will need to reflect your program and be specific to the assignments you give your students. You may wish to include a time management chart, a list of all assignments to be completed, and instructions to the student regarding the use of a daily planner (i.e., agenda book) to organize their work.

5. *How Will Your Mark For This Module Be Determined?*

   This section will interpret the assessment criteria and conditions, assessment standards, assessment tools and suggested emphasis as defined for the module within the context of the projects/tasks completed. Accepted grading practices will then be used to determine a percentage grade for the module—a mark not less than 50% for successful completion. (**Note**: A module is "successfully completed" when the student can demonstrate ALL of the exit-level competencies or MLEs defined for the module.)

6. *Which Resources May You Use?*

   Resources considered appropriate for completing the module and learning activities are identified in this section of the guide. The resources may be available through the Learning Resources Distributing Centre (LRDC) and/or through other agencies. Some SLGs may reference a single resource, while others may reference a range of resources. Resources may include those identified in the Learning Resource Guide (Section I) as well as other sources of information considered appropriate.

7. *Activities/Worksheets*

   This section provides student-centred and activity-based projects and assignments that support the module learner expectations. When appropriately aligned with curriculum and assessment standards, successful completion of the projects and assignments will also indicate successful completion of the module.

Strategies for Developing Student Learning Guides

Prior to commencing the development of a student learning guide, teachers are advised to obtain:

- the relevant Guide to Standards and Implementation
- the student learning guide template.

Information communicated to the student in the SLG must parallel and reflect the curriculum and assessment standards as defined for the module. Therefore, critical elements of the Guide to Standards and Implementation that need to be addressed throughout the SLG include:

- module and specific learner expectations
- assessment criteria and conditions
- assessment standards
- assessment tools.

Additional ideas and activities will need to be incorporated into the student learning guide. These can be obtained by:

- reflecting on projects and assignments you have used in delivering programs in the past
- identifying human and physical resources available within the school and community
- networking and exchanging ideas (including SLGs) with other teachers
- reviewing the range of resources (e.g., print, media, software) identified in the Learning Resource Guide (Section I) for a particular module/strand.

Copyright law must also be adhered to when preparing a SLG. Further information and guidelines regarding copyright law can be obtained by referring to the:

- *Copyright Act*
- *Copyright* and the *Can Copy Agreement*.

A final task in developing a student learning guide involves validating the level of difficulty/challenge/rigour established, and making adjustments as considered appropriate.

A template for developing student learning guides, also available on the Internet, is provided in this section (see "Sample Student Learning Guide Template," pages J.5–10).

CAREER &
TECHNOLOGY
STUDIES

SAMPLE STUDENT LEARNING GUIDE TEMPLATE

WHY TAKE THIS MODULE?

WHAT DO YOU NEED TO KNOW BEFORE YOU START?

WHAT WILL YOU KNOW AND BE ABLE TO DO WHEN YOU FINISH?

•
•
•
•
•
•
•
•

WHEN SHOULD YOUR WORK BE DONE?

12
1
2
3
4
5
6
7
8
9
10
11

HOW WILL YOUR MARK FOR THIS MODULE BE DETERMINED?

	PERCENTAGE

WHICH RESOURCES MAY YOU USE?

•
•
•
•
•
•

ACTIVITIES/WORKSHEETS

K. ACKNOWLEDGEMENTS

The Logistics strand was developed through the cooperative effort of people from schools, post-secondary institutions, professional associations, business, industry, labour, and departments and agencies of the Government of Alberta. Alberta Education would like to extend sincere appreciation to the following individuals and groups.

Career and Technology Studies Advisory Committee

Dawn Arnold	Tofield School
Mike Blackwell	Wetaskiwin Composite High School
Susan deWijk	Lester B. Pearson Senior High School, Calgary
Maryanne Doherty-Poirier	University of Alberta, Edmonton
Lynne Duigou	St. Francis of Assisi School, Edmonton
Darwin Eckstrom	Peace Wapiti Regional Division No. 33
Barry Edgar	Grande Prairie Composite High School
Harold Hayter	Northern Alberta Institute of Technology, Edmonton
George Hildebrandt	School System Representative
Gerry Hunt	Eastglen Composite High School, Edmonton
Kenneth Jacknicke	Post-secondary Education Representative
Graham Johnston	Post-secondary Education Representative
Brenda Kent-Packer	Clarence Sansom Junior High School, Calgary
Bev Klemen	W. R. Myers High School, Taber
Kevin Knibbs	Calgary School District No. 19
Arnold Krause	Department of Education, Culture and Employment, Government of North West Territories
Len Luders	Red Deer School District No. 104
Eva-Jane Lundgard	Edwin Parr Composite Community School, Athabasca
Gordon Murray	Bellerose Composite High School, St. Albert
Jeannette Pawliuk	Edmonton School District No. 7
Sam Perverseff	Alberta Teachers' Association Representative
Connie Peters	School System Representative
Darren Reeder	Business/Industry Representative
Rick Roman	Business/Industry Representative
Barry Stangeland	School System Representative
Gordon Welch	CASS Representative
Gordon Worobec	Alberta Teachers' Association Representative

Logistics Steering Committee

David Ambrock	Universal Contract Logistics, Calgary
David Badry	Canada Post Corporation, Edmonton
David Godfrey	Weldwood of Canada Ltd., Hinton
Bob Johnson	Stockroom Training Systems, St. Albert
Beverly MacKeen	Advanced Education and Career Development, Edmonton
Gary Palmer	Enterprise Performance Advantage, Bragg Creek
Gordon Pyle	Business/Industry Representative

DACUM Development Committee

Georff Daw	Business/Industry Representative
Mike Hansen	Canadian Freightways Ltd., Calgary
Mark Holm	Business/Industry Representative
Mike Markowich	Business/Industry Representative
Warren Sarafinchan	Business/Industry Representative
Val Trosko	Business/Industry Representative
Ken William	Weldwood of Canada Ltd., Hinton
Jerry Wyte	Business/Industry Representative

Field Review Schools (1994–1995)

Elaine Ford	School System Representative
Mike Cachia	Father Patrick Mercredi Community High School, Fort McMurray
Stuart Graham	School System Representative
John Hand	School System Representative
Boyd Alcock	School System Representative
Jim Stevenson	School System Representative
Jerilynn Daniels-Martin	School System Representative

Task Force II (1996–1997)

Allan Dickie	Schenker of Canada Ltd., Calgary
Bob Johnson	Stockroom Training Systems, St. Albert
Lori Lillew	Alberta Institute Purchasing Management Association of Canada, Calgary
Garry Palmer	Enterprise Performance Advantage, Bragg Creek
John Warnica	Business/Industry Representative

Alberta Education, Curriculum Standards Branch

Lloyd Symyrozum	Director, Curriculum Standards Branch (Retired)
A. A. (Scotty) Day	Assistant Director, Curriculum Standards Branch (Retired)
Keith Wagner	Director, Curriculum Standards Branch
Susan Lynch	Assistant Director, Curriculum Standards Branch
Sharon Prather	Program Manager, Career and Technology Studies
Michael Alpern	Program Consultant, Logistics, Career and Technology Studies

Document publication and administration

Jennifer Annesley
Kim Blevins
Lila Borhot
Lisa Buckland
Lorraine Crawford
Maria Crudo
Christopher Ewanchuk
Nancy Foulds
Lin Hallett
Dianne Hohnstein
Cori May
Joanne Medisky
Pauline Taylor
Catherine White
Marcie Whitecotton-Carroll
Esther Yong